

War waged on copyright 'pirates'

by Paul Flather

MPs, publishers and the Department of Trade are preparing an onslaught against the "piracy" of copyright books which costs British publishers up to £100m a year in lost earnings.

The international division of the Publishers' Association, which has 250 members covering 400 imprints, last week agreed to set up a £50,000 fighting fund to wage war on the pirates over the next three years.

Piracy costs publishers about £500m a year worldwide, and as British losses increase publishers have decided to act before the problem becomes uncontrollable. The range of new titles as well as jobs in the industry are under threat.

Mr Anthony Read, director of the international division, said some of the pirate operations, particularly in the Far East, seemed highly organized. There was also concern about piracy in West Africa, the Middle East, and "local" pirates in Britain.

The Department of Trade is setting up a new counterfeiting unit which will use diplomatic and political pressure to persuade foreign governments to fight piracy of all goods including jeans, carpets, perfumes and video tapes, as well as books.

Dr Gerard Vaughan, minister for consumer affairs, announced the move last month. He is keen to attack the "great pretenders" hitting

British industry. The unit will have five staff.

Simultaneously, a new all-party Parliamentary committee on publishing, chaired by Mr Ted Rowlands MP, has been set up to raise issues of general concern, including piracy and give them a higher priority.

Mr Rowlands warned that the "remarkable diversity" of new titles published each year in Britain could not be maintained in the face of such unfair competition. In 1982 there were 48,300 new titles and 10,360 new editions published in the UK.

"We are not after the poor student who copies a few pages from a textbook," he said. "We are after the large-scale organized commercial filching of material. It is utterly wicked and leading to the blatant destruction of our publishing industry."

Countries under particular scrutiny are Jordan, Syria, Egypt, Taiwan, Singapore, Malaysia, Korea, the Philippines, the Indian subcontinent, and Nigeria.

Funds put in the publishers' fighting fund will be used to publicize such cases and spread information on how to fight pirates overseas. Legal cases are pending in Nigeria, Singapore and India. Successful work in Jordan has unearthed a 1911 Ottoman Law which gives copyright protection. A test case was recently won against the Jordanian minister of education.

NAB's cutback plans face 'no redundancy' snag

Local authority "no redundancy" policies could be a serious stumbling block in the National Advisory Body's bid to reduce spending on public sector higher education.

About half the polytechnics, mainly those with a Labour-controlled education authority, have some form of "no redundancy" policy. Up until now, staff have been shed through voluntary redundancy and early retirement, aided by the attractive terms on offer to lecturers over 50.

But that source is rapidly running dry, especially in polytechnics which have already made quite savage cuts. Administrators doubt whether younger lecturers will be prepared to leave under the Government's discretionary schemes.

Newcastle education authority has a policy of no redundancies for financial reasons only. It is possible to allow redundancies when a course collapses, such as with a nursing degree. But Mr Gerald Dearden, the polytechnic assistant director for personnel said because of the NAB exercise no such claim could be made.

He thought very few people would touch the new Government scheme which was "niggardly". A restructuring fund along the lines provided by the universities would be the only way to ease the situation, he added.

Principal on NTI group

The Manpower Services Commission finally announced this week that Mr Michael McAlister, principal of Blackpool College, is to be the further education representative on the National Training Initiative.

This follows strong protest from the National Association of Teachers in Further and Higher Education after the MSC at first announced the appointment of a 15-strong group

which did not include any member directly connected with further education.

The commission also announced the long-awaited criteria to which local education authorities will have to adhere to when putting in their bids for one of the 10 pilot projects under the New Technical Vocation Education Initiative. Up to now 73 LAs have expressed interest.

Government happy with biotechnology promotion

The Government is satisfied with existing arrangements for the promotion of biotechnology and will make no major changes to meet the criticisms made by the House of Commons Select Committee on Education, Science and the Arts last year.

In its reply to the committee's interim report on biotechnology, released on Wednesday, the Government brushes aside the members' main concern - the pressure on the dual support system for university research, produced by the University Grants Committee and the Science Research Council. A memorandum from the Secretaries of State for



Lady Tanlaw cut the cake when Lord Tanlaw (far right) opened the eighteenth century Old Town Mill which the University College at Buckingham has restored to provide improved catering and recreational facilities for students and staff. Also pictured are Professor Alan Peacock, university principal, and Mrs Peacock.

Swinerton-Dyer calls for more balanced Ulster body

by Karen Gold

The University Grants Committee is to blame for widely-criticized proposals for an Ulster higher education planning body, Sir Peter Swinerton-Dyer told the Commons Select Committee on Education, science and the arts.

Sir Peter, who chairs the steering group overseeing the merger between Ulster Polytechnic and the New University of Ulster, told the Department of Education Northern Ireland opposition to the inclusion of only two Ulster representatives on the body, with the remaining five coming from Great Britain.

"DENI may indeed believe that already," he said. "It is a matter of persuading the UGC. I conjecture that DENI would like a more balanced body... the balance is the result of negotiations between DENI and the UGC, and isn't necessarily what DENI would wish."

Mr Derek Birley, vice-chancellor designate of the merged institution criticized the balance of the body, the omission of representatives from further education, and its dependence on the UGC, which it will simply advise.

The department is putting its trust in the UGC to get the funds for the totality of higher education. I just hope that the trust isn't misplaced... I think that is the most dangerous part of it," he said.

The merger was running smoothly, with new programmes for both institutions under discussion, Mr Bir-

ley told the committee. All staff, teaching at whatever level, would be paid on university salary scales, although standardizing superannuation would be more difficult. The cost of both would be £750,000.

Discussions between the institutions, the local college and local interests, education and library boards and DENI were about to begin on the future of higher education in Londonderry, he said. New staff would be needed to expand provision there, but he opposed a link between Magee University College and the North West College of Technology to form a "Derry Tech" outside the new institution.

Mr Nicholas Scott, Northern Ireland's education minister, told the select committee that he did not agree that arrangements for the higher education planning body were cumbersome.

He said he would look with some sympathy at representation for more Ulster members. He would decide within two months, and the body would be established around the middle of the year.

Mr Scott repeated his commitment to higher education in Londonderry and said he would consider Mr Birley's assessment of the need for additional staff there. It was too late to create a separate college there, he added.

Bishop Cahal Daly, Bishop of Down and Connor reported the Roman Catholic demand for a 40 per cent quota of trainee teachers. The Government has offered 33 per cent.

Adult classes hold steady

Local authority adult education classes held their enrolments steady and raised fees by 8 per cent in 1982, although some authorities diverged dramatically from the general pattern.

Of the 104 local authorities, 98 replied to the annual survey of fees, enrolments and organization by the National Institute of Adult Education and the Advisory Council for Adult and Continuing Education. Their average fee for non-vocational classes was 55p an hour, compared with 51p in 1981.

But in one authority - Trafford - fees rose to £1.04 an hour, not only an increase of almost 10 per cent, but also almost 20p more than any other authority.

Trafford's "no subsidy" policy for non-vocational classes also affects its concessionary fees. Adult education organizers in the area are concerned that although local pensioners pay only half fees, they also only count as half-students, meaning that for a class comprising all pensioners to be viable there must be 24 of them instead of the usual 12 students.

Government happy with biotechnology promotion

ay policy. In future, the DoT will reply to the UGC when relevant items come before the Interdepartmental Committee on Biotechnology. And the memorandum confirms that the UGC will monitor the use of funds to ensure they lead to creation of new posts.

Overall, the memorandum asserts that the Government fully recognizes the potential of biotechnology, but stresses that the main responsibility for exploiting new possibilities rests with private industry.

The select committee on Education is disappointed that the Government

Limited approval for poly engineering

by Jon Turney

Science Correspondent

Extended engineering degree courses in the public sector are likely to go ahead later this year but the Department of Education and Science want to restrict initial experiments to a few centres.

After the Council for National Academic Awards decided last December to introduce new BSc (Eng and BEng awards, the National Advisory Body put forward proposals for six courses in three polytechnics - Kingston, Hatfield and Brighton.

The proposals implied they should be some extended engineering courses and had strong backing from the NAB's engineering working group.

The DES did not approve the proposals but it invited the NAB to formulate new guidelines for similar courses, including some extended ones. In effect, the department conceded the principle that there should be some longer courses, but did not say how many there should be or how they would be funded.

Much will depend on the view of the Engineering Council, which is expected to produce a verdict on the need for extended engineering courses later this year.

Mr Richard Bird, deputy secretary at the DES, stressed the lack of official enthusiasm for longer courses in a letter last month to Dr Kenneth Miller, the council's director. Commenting on the council's first policy statement, he said the department "remains to be convinced of the educational and industrial need for any widespread provision of extended first degree courses either in universities or in the public sector".

He suggested that the development of engineering applications courses which the department saw as a priority, should be accommodated by longer academic terms rather than longer courses.

The advisory body's engineering working group has made further recommendations to the NAB board. Last week it agreed to invite up to 10 institutions to submit new course proposals along the lines of the CNA outline.

Some of these would then be put to the DES for approval this year and some to start in 1984. The institutions have not yet been chosen.

The department should approve the next set of proposals but official scepticism may make some colleges wary about submitting courses.

London medical dean resigns

The dean of the London Hospital Medical College, Professor David Ritchie, has resigned a year after taking office.

His resignation follows three months' leave of absence to consider his position after heads of departments in the college tried to persuade him to relinquish his post.

The college maintained last December that Professor Ritchie was expected to resume his duties as dean at the end of January. It is now seeking a replacement and the acting dean, Professor Michael Floyer, will continue until an appointment is made.

Professor Ritchie, who heads the college's department of surgery, began his contract as dean in October 1981 on the retirement of Sir John Ellis. He is now said to be giving up the post to devote more time to surgical research.

Professor Ritchie's leave of absence followed a vote of no confidence in him, which around half the college's 50 heads of department signed last September.

The college may now alter the dean's terms of service to make the post a full-time appointment. Professor Ritchie and the college secretary Mr James Walsley, both declined to comment on his resignation.

Medical lecturers face sack

by Sandra Hempel

Four lecturers at Guy's Hospital Medical School face the sack in September despite the widely-held belief that they have tenure.

The two lecturers and two senior lecturers are in the school's medical physics department. It will close when its head, Professor Sidney Wyard, retires this year.

The decision to close medical physics was made in July 1981 because of falling demand for its teaching. It was set up about 60 years ago to cater for medical students whose knowledge of physics was inadequate. Now, because most offer A level physics as one of their entry qualifications there is less need for the department.

When the redundancy notices were first issued it was believed that the staff would be redeployed, but there are signs that the school intends to sack them. The legal situation is unclear and would need to be tested in court. While their contracts state they are to be employed until the date of their statutory retirement, another clause allows for three months notice on either side.

The sixth member of staff in the physics department is a reader. Like Professor Wyard he is appointed by the University of London rather than the medical school and expects to be kept on.

The Association of University Teachers is trying to get the issue raised at the next academic board meeting in March. Mr Bill Hennessy, the regional AUT official said: "The matter was originally presented as the closure of a department rather than sacking of staff."

"Now that dismissal is involved, we believe that the individuals concerned have the right to demand their cases be heard by the academic board," he added. "We have been trying to find ways of resolving this for some time but there does not appear to be any willingness on the other side to find a solution."

The AUT is particularly annoyed that the school is preparing to go ahead without waiting for the conclusions of a working party on medical physics in London.

Dr Alan Houston, the dean of the school was not available for comment.

Neglect of research 'hits health service'

Neglect of health policy research is one reason for poor decision-making about expensive medical techniques in the health service, according to a new report from the Council for Science and Society.

The report criticizes the research councils and the Department of Health for their failure to coordinate funding of health services research, and proposes the founding of a national institute of health service research.

It says research into costs of new techniques, clinical trials and epidemiological, psychological and policy studies are poorly funded at present by the Social Science Research Council because of its overall cut in budget.

Scottish students forced to quit

by Olga Wojtas
Scottish Correspondent

Almost 1,500 Scottish students have been forced to leave university or college because of new grant regulations, according to the Scottish National Union of Students.

Last year, the Scottish Education Department axed repeat year grants, except on stringent medical or compassionate grounds, with an estimated saving of £2.2m, despite opposition from both students and university and college principals.

The SED has confirmed that 1,450 students have dropped out of courses, but said that some may have found alternative ones, or alternative funding. However, alternative courses will be eligible for an SED grant only if they do not exceed the original period of funding - for example, a student on a four-year honours course might be able to transfer to a three-year ordinary degree course.

NUS women rise to top

Women are likely to outnumber men on the National Union of Students' new executive for the first time in its 60-year history after elections at its Easter conference.

When nominations closed last week, the national secretary Ms Jane Taylor and the vice president welfare Ms Sarah Veale, were predicted to hang on to their posts for a second term.

Three out of the four National Organization of Labour Students' candidates for part-time places on the executive are well placed to win. The Social Democratic Party, the Left Alliance and the Socialist Student Alliance are also running female candidates, thus paving the way for a female majority.

The SDP presidential candidate, Ms Jacqueline Sadek, is likely to be a focal point in opposition to Mr Neil Stewart, who is seeking a second term for the NOLS. The SDP is also opposing the NOLS-backed vice-president for education, Mr Tommy Sheppard, who is seeking re-election.

The most bitter contest will be for the post of national secretary. The Labour Party students will be divided between support for Ms Taylor, who is standing for the Left Alliance, and Mr John Moore who, although a Labour Party member, is standing on a Socialist Students Alliance platform.

Mr Bob MacLean, chairperson of the Scottish National Union of Students, said: "I presume these 1,500 students will have joined their contemporaries on the dole."

Students who repeated a year were generally successful in gaining their degrees, he said. "The Government would be making a better investment if they paid for an extra year of education rather than making a less constructive use of public funds in dole money."

The SED is likely to oppose government attempts to make changes in student travel awards. At present, each student receives a flat rate of £50, and can claim if daily travel and three return journeys home are in excess of this.

But the Government is reviewing the system and is said to be considering a split between students living at home and those away from home.

However, Scotland has a different pattern from the rest of Britain with

a large number of students living at home and travelling considerable distances daily.

Mr MacLean said: "About 90 per cent of Glasgow University students and 75 per cent of Strathclyde students live at home, and 30-mile-a-day round trips are not uncommon."

The SED met 45,000 claims last year, and while the average travel claim is around £150, Mr MacLean said there were many Scottish claims of £400 and £500.

"Any change in the travel grant, particularly a flat rate, would be ridiculous in Scotland because there are many people with very long start of term journeys, such as Shetlanders and students from the islands."

The NUS (Scotland) had made all these points to SED officials, said Mr MacLean, and had received a firm commitment that they would be consulted again before any moves were made.



Paul Jamieson (left) began running adult education classes in order to maintain the community spirit built up when the South Glimorgan village of Sully was cut off by snow last year. Now he gives weekly cookery classes like this and hosts Welsh and Italian classes in a room attached to the lounge bar. The pub also features lectures by local residents, including two by the inventor of the breathalyser on "how to drive and drink".

Research 'monopoly' broken

by Jon Turney
Science Correspondent

Long-awaited plans to remove the automatic right of the British Technology Group to exploit publicly-funded university research, should soon be approved. Proposals framed by the Department of Education and Science and the Department of Industry now only need the go-ahead from the Treasury.

Abolition of the BTG's "monopoly" has been under consideration since early last year, and is a response to widespread criticisms of the group, and of the former National Research Development Corporation, by academics, industry and official committees. The House of Commons Select Committee on Science and Technology's report on biotechnology last year was especially critical of the BTG, and Mr Patrick Jenkin, the Industry Secretary, said then that its position was under review.

Dr Howard Dalton, who has a biotechnology project at Warwick University which the BTG is trying to promote, explained this week that dissatisfaction with the group stemmed from poor organization rather than the performance of individual employees. His research team has received £400,000 from the BTG to develop a patented process for using bacterial enzymes for chemical production.

But the BTG has failed to interest any British companies in taking the process further. "When companies hear that the BTG are involved, they just don't want to know any more," he said. "They seem to lack the sort of marketing know-how which is needed to answer the questions industry asks about a new idea."

BTG officials suggest that the loss of automatic rights over research council supported work will not be very important for either side, and there is some justice in the claim.

Support cut

Education and general services are the only areas of Scottish local authority capital spending which will have their budgets cut in the next financial year, the Scottish Secretary, Mr George Younger, announced this week. Government support for total capital spending would rise by £12 million to £254 million but the education allocation would fall by 13 per cent from £48.5 million to £42.7 million.

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News in brief

Scots lecturers claim 13%

Scotland's tertiary lecturers have put in a salary claim for 13 per cent and called for a pay review to ensure there is "no further deterioration". They also want parity with university staff.

The staff side of the Scottish Joint Negotiating Committee, made up of further education lecturers and lecturers in colleges of education and central institutions, maintains there is a gap of at least 20 per cent between the current value of their salaries and the levels established by the Clegg Commission in 1979.

On the other side of the binary line, university technicians have lodged a claim for a "substantial" pay rise for 1983 without waiting for the other campus unions. The unions are to meet next week to finalize plans to submit claims simultaneously, and senior officials from the technicians' union do not think unity has been damaged by "jumping the gun".

OU hard sell

The Open University's centre for continuing education has commissioned Saatchi and Saatchi, the Conservative party's advertising agents in the last general election, to get Britain's industrial scientists working again.

The £100,000 account was agreed this week, for a May campaign promoting the OU's updating programme on science and technology in industry, and management education.

Poly first

Sheffield Polytechnic is to run the first public sector master of arts degree in women's studies. The course, which has just been given approval by the Council for National Academic Awards, will start in the autumn and will involve a strong cultural, social and historical input. About 20 students will have to complete seven terms of part-time study organized by the applied social studies and communications studies departments.

Charity chair

A chair of theological studies at Exeter University is to be funded by a local charity. The Saint Luke's College Foundation is to support the chair for at least seven years from 1984. A new BA honours course in theological studies begins in October next year.

Be prepared

Sir John Habakkuk, aged 67, is to retire 10 months early at the end of September 1983 as principal of Jesus College, Oxford, to prepare a series of lectures. Sir John, a former chairman of the Committee of Vice-Chancellors and Principals, will give the six Ford lectures on English landowners in the sixteenth and seventeenth century during 1984/85.

Move rejected

The Social Democratic Party's policy-making body rejected a move to remain its proposed two-year general degrees diplomas at the weekend.

Special offer

Sale shoppers in a Sheffield department store this week found free adult education advice among the cut-price offers, provided by the Sheffield Educational Information Service for Adults on their own second-floor counter. SEISA, a Manpower Services Commission sponsored organization, is supported by the city's educational providers.

Magic moment

St John's College, Oxford, has denied reports that it offered a conditional place to a student on the strength of a convincing trick performance during his interview for a place to read history. "It's obviously bunk. He was chosen on his merits," a spokesman said. "But it shows he has interesting hobbies and is a pretty confident chap."

Bill could help prisoners' lot

by Karen Gold

A Private Members Bill establishing the right of access to education for all prisoners was introduced in the House of Commons this week with support from members of all political parties.

The Education in Prisons Bill was introduced under the ten minute rule by MP Mr Harry Greenway (Cons, Ealing North), a member of the House of Commons Select Committee on Education, Science and Arts, supported by Labour, Social Democrat and Liberal MPs as well as the former leader of the house Mr Norman St John Stevens.

The Bill would oblige the Home Secretary and prison governors to make vocational and non-vocational education available in all prisons and to all prisoners, whether convicted or on remand, adult or under 21, and to explain to prisoners those educational opportunities.

It says: "All adult prisoners shall have the opportunity to take advantage of the educational facilities, either during or outside working

hours, and either through attendance at classes or through private work or their cells with tutorial support."

The governor would decide which prisoners were allowed the privilege of fulltime or daytime study, but enough evening classes should be held to allow every prisoner attendance at one a week.

Remedial education would be a priority, with prisoners needing basic education allowed to make it their daytime work. Those aged between 16 and 21 would be required to participate in some education or training.

Both witnesses at the Select Committee's evidence session on prison education this week rejected legislation as a means of improving the situation. Mr Dennis Trevelyan, director general of the prison service, said local and remand prisons were the problem; education in the others was probably the best in the world. Legislation would tie the hands of prison governors, who had other considerations apart from education.

Mr John McCarthy, former governor of Wormwood Scrubs, who resigned from what he termed his "penal dustbin" last year, said that legislation was not the answer. The May committee's report on prisoners' education - had not advanced education in prisons, he said.

The problems that arose over prison education, and over resistance to it by prison officers both overtly and in the difficulty of providing escorts to classes, were developed largely from poor industrial relations in prisons, he said.

"My experience is if you make prison staff feel they are important and worthwhile human beings they relax towards all other activities," he said. "The education that was started by prison staff."

"If someone comes in and makes them feel... they are really unskilled turnkeys, he does get a reaction. I see that trained teachers have something to offer in a certain capacity. So do prison officers, and governors and probation officers."

Colleges 'need not combine'

by Patricia Santinelli

The Department of Education and Science has told Westhill and Newman voluntary colleges in Birmingham that it will no longer press for their merger.

Newman, a Roman Catholic college, was reviewed only last November by Sir Keith Joseph, who said they should seriously consider merging to ensure their viability.

Following a meeting between governors of Westhill, a free church college, and Mr William Waldegrave, under-secretary for higher education last week, the DES says it wants the colleges to retain their separate identity and ethos, but they should continue to collaborate and share resources.

The two colleges are affiliated to Birmingham University. They have been collaborating and making joint in-service training courses for some time. Recently they have been examining how to develop schemes for sharing initial teacher training work.

It is likely that the DES's change of plan stems from the difficulties inherent in merging a free church and a catholic college.

Westhill College is a founder member of the Federation of Self-Chuk Colleges. This encompasses a group of nine which represents many cultures, faiths and more than 30 countries.

Mr Alan Bamford, principal of the college said he was pleased that the two colleges could continue and extend their collaboration and sharing of resources.

Mr Tony Miller, the National Association for Teachers in Further and Higher Education representative at Newman College, welcomed the DES's decision as very positive.

"A formal merger would have entailed long discussions and negotiations and would have been complicated because of Westhill's position in the federation of colleges and Newman's relationship with the Catholic Church," he said.

Mature students hit by cuts

Mature university applicants are likely to suffer more than school-leavers from the spending cuts, according to the Joint Matriculation Board.

The board, which comprises Manchester, Liverpool, Leeds, Sheffield and Birmingham universities, has voiced its fears to the Standing Conference of University Entrance and to the University Grants Council.

It has asked both bodies to help in ways of protecting the interests of mature applicants.

In its annual report for 1981/82 the board says it has tried hard to make information readily available to potential applicants to its mature entry scheme. The scheme is for candidates over-21 who do not have formal qualifications. They can now get leaflets and forms direct from the universities rather than through the Universities Central Council on Admissions and other bodies.

The number of enquiries about mature entry went up from 2,000 in 1981 to more than 2,500 last year and the board expects it to go on increasing. Despite this, however, the number of successful applicants was one of the five universities was 276 in 1982 compared with 280 in 1981.

The board's matriculation committee fears that the cutbacks in university places will reduce disproportionately the opportunities for mature entrants.

The JMB tests in English proved less popular than the alternative to OGC O level. English language proved less popular with both native speakers and overseas candidates. Last year, total numbers taking the test dropped by 31.3 per cent from 9,643 to 6,621. The total entry from native speakers was 1,873, a drop of 10.4 per cent on 1981.

Welsh merger talks reach stalemate

by Sandra Hempel

Talks on the merger of University College, Cardiff, and the University of Wales Institute of Science and Technology appear to have reached stalemate with each side waiting for the other to take the initiative.

The presidents of the two institutions, Sir Julian Hodge of the UWIST and Lord Elwyn-Jones of the UCC, have had talks to try to resolve the argument. In the meantime no date has been set for the next meeting of the joint planning committee which has not sat since before Christmas.

The UWIST council this week considered a letter from the UCC which set out its position on the merger and called for work on the

charter and statutes of the new institution to go ahead.

University College was expecting the UWIST to reply with proposals to take the talks further, but the UWIST has merely restated its conditions for the merger and wants the next move to come from the UCC.

The main stumbling block is the UWIST's insistence that work on the charter and statutes should stop while four areas of concern are settled.

These are: the distribution of academic resources in the new institution; the position of individual staff members; a plan for buildings and future financial stability.

But the UCC believes that any delay now on the charter and statutes would push the timing, already put back a year, beyond the latest

agreed date of August 1985. It finds this unacceptable. It claims that the UWIST could continue with the charter work without prejudicing its stand on the other issues.

In a letter to *THE THES* in December, Dr Alfred Moritz, vice-principal of the UCC, said that if the new college was to be created it had to be done quickly. "Present employees and prospective students can only suffer if uncertainty is prolonged," he said.

The UWIST registrar, Mr Frank Harris-Jones replied: "The work of a technological university depends on proper funding of supplies and materials to departments... The fulfilment of the desire to create something bold and imaginative is likely only the basis of proper planning now."

The talks broke down in early December after the UWIST's council backed its senate and expressed concern about the way the negotiations were going. It said it could see little possibility of finding acceptable merger terms in the near future. This followed an earlier row last summer over the size of the UCC's deficit.

Neither side was keen this week to discuss the precise involvement of the presidents, whose talks were described as informal.

Mr Harris-Jones said, however, that the UWIST awaited with interest any report or recommendations that might emerge from the meetings. "To mix metaphors, at the moment we appear to be on the horns of a hiatus," he said.

YOP staff training 'not up to standard'

by Patricia Santinelli

Training for staff on the Youth Opportunities Programme is totally inadequate and must be radically revised if the Youth Training Scheme is to be a success, says a critical report from the National Institute for Careers Education and Counselling.

The report, *Experience is not Enough*, by Edward Knael of the institute, was commissioned by the Manpower Services Commission to examine in particular guidance and counselling provision. Its conclusions, the author says, are applicable to the whole of staff training.

Mr Knael says that if it is viewed in the most favourable light, the existing MSC system of staff training can be described as meeting local conditions and requirements.

"Put less charitably, the overall structure of provision can be seen as being at best patchy. Within this picture the degree of attention given to individual guidance and support is even more limited and uneven, ranging from almost none to, notably in Yorkshire and Humberside and in the South-east, a modest amount largely dependent on outside resources," he says.

Mr Knael adds that so far this approach to the development of YOP has made sense. But the crucial question is whether this structure can serve as a basis for a youth training

scheme which puts a greater stress on quality. Can be no doubt that the existing system which is so heavily reliant on discrete courses and so diverse in its quality from region to region is not adequate to the task as it stands," he says.

In his report he points to at least five areas where changes ought to be made immediately. One is for staff to be given greater opportunity for individual negotiation in deciding on a course. Too often, staff arrive without a clear idea of the purpose or objectives of the course for which they are enrolling.

Second, supervising Work Experience on Employers' Premises should be encompassed in a training programme. Up to now very few have participated. But the author believes this will be vital under YTS.

Third, the report says there has been too much reliance on discrete courses which schemes have not always been able to integrate into a comprehensive staff development policy. It recommends that more attention should be paid to staff development within schemes.

Finally, the report says there is a need to encourage and identify additional sources of specialist training expertise. One way might be through a system for accrediting competent staff trainers, it suggests.

Surrey sets up unique course

A unique course in applied sociology involving development economics and equipping graduates to learn about self-management and cooperative enterprises has been designed by Surrey University.

Surrey is offering 10 graduate places this autumn for a one year masters degree in producer cooperative development, said to be an area of growing world importance.

Sociology has been taught at Surrey since 1963 and has always concentrated in applying systematic research to "relevant" questions of social policy. Topics have included mental illness, the social services, race and ethnic relations, and education. Surrey has more than 60 graduate sociology students.

"Relevance and the issues of 'applied' and 'useful' research have been widely debated by social scientists for the past 18 months. Last month Mr William Shelton,

Professor Peter Abell, professor of sociology at Surrey, said the MSC course would combine elements of Yugoslav self-management theory with new ideas of industrial democracy and participation.

"We are aiming particularly at overseas students who we hope will go back and work in the cooperative movement which exists even in its embryonic form in most countries. But many people here are also very interested now."

The taught elements would include development economics, research in less developed countries, industrial sociology, and the theory and practice of industrial cooperatives. Students would also have to produce a 20,000-word dissertation.

Poly staff boycott Hendon racism inquiry

Lecturers at Kilburn Polytechnic are boycotting a local inquiry set up by their union to investigate allegations of racism among cadets at Hendon police school.

The polytechnic's branch of the National Association of Teachers in Further and Higher Education is refusing to cooperate because terms of reference do not include a demand for the reinstatement of Mr John Fernandez, the sociology lecturer, after he was dismissed for alleged racist tendencies among many cadets on a multi-cultural course.

National union leaders are trying to find a solution to the dispute: But the authority has warned the head

of the school, Commander John Wells, that if Mr Fernandez is not reinstated it may take legal action. The education committee meets next week.

Mr Dawson is also due to meet Commander Wells to discuss the case. The Natch executive is setting up its own investigation into the extent of racism in police training and has endorsed the establishment by the union locally of its own inquiry.

But the polytechnic branch decided last week that the refusal of the liaison committee to include Mr Fernandez's reinstatement as a specific demand meant it was unable to cooperate.

Hoggart's parting advice

by Karen Gold

Reports of the death of adult education's advisory council are no longer premature: this week it announced its own demise, with proposals for a successor national development body for continuing education.

In a letter to the Secretary of State, Sir Keith Joseph, the chairman of the Advisory Council for Adult and Continuing Education, Dr Richard Hoggart, emphasized that the council was not asking for an extension of its six-year life, due to end this autumn.

"We do not ask for our own continuance, because for our own present advisory remit has been extensively covered by our work," he wrote.

"This council has proved that there is a need, and it has proved that it's time to get steam up and get continuing education out of the shadows. We've done enough advising. We've advised them up to the eyeballs. What is needed now is a development council."

The proposals call for a short-term successor appointed for five years along the lines of the Adult Literacy and Basic Skills Unit, with a £1.75m budget, 10 staff and a role bringing together local providers of adult and continuing education - such as voluntary and responsible bodies - cooperating with them evaluating provision, promoting good practice and developing projects.

Although it might be attached to another body, such as the National Institute for Adult Education, it should ultimately be independent and funded not only by the Department of Education and Science and outside sources, but receive a subvention from the Manpower Services Commission.

In the longer term a much larger and more powerful body will be needed.



Engineers at Lancaster University saw the fruits of a research project when a local company, Dorman Smith Switchgear, of Preston, presented them with a measuring instrument they helped to develop. The instrument, known as the LMPSC, measures short-circuit currents and will enable companies to comply with new safety regulations. Pictured (from left to right) are Dr Michael Anson and Mr John Burch, of the department of engineering, and Mr Alan Kidd and Mr David Hopkins, of Dorman Smith.

Poly candidates shortlisted

A shortlist of six names has been drawn up for the post of principal of Sheffield Polytechnic after the education authority decided to re-advertise because it failed to attract applicants of high enough calibre.

Three candidates remain on the shortlist from the original draw to find a replacement for Dr George Tolley who has taken up the post of director of the Open Tech initiative. They are Mr Douglas Thacker, the polytechnic's deputy principal, Mr John Stoddart, director of Hull College of Higher Education and a former member of the poly's staff, and Professor David Weir of Glasgow University's business school.

After re-advertising, a further three names were added which are a director of a Worcester engineering company, Mr John Osola of Redman Heenan International; Dr John Earls, assistant principal for academic and student affairs at the polytechnic; and Professor Michael Stephens, of the department of adult education at Nottingham University.

When the post was being re-advertised, Councillor Peter Horton, chairman of the education committee, said that they had been disappointed by the number of applicants who applied and their calibre.

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North American news

Penalties for draft dodgers

The Department of Education is pressing ahead with plans to withhold grants and loans from students who have failed to register with the military selective service system, despite widespread opposition from student groups and some colleges.

Mr Terrell Bell, the Education Secretary, this month published detailed regulations for enforcing the rules and warned that the department intended to carry out the wishes of Congress. "The message is simple: no registration, no money," he added.

Under the rules, students would have to submit with their application for federal grants or loans a form confirming that they had registered with the Selective Service System, and submit their registration papers in their college before receiving any financial assistance.

The United States has no military conscription at present but registration for selective service is designed to enable a swift call-up in the event of a national emergency.

Several student groups have criticized the new rules and promised to seek repeal of the legislation. They are the United States Student Association, the National Coalition of Independent College and University Students and the National Organization of Black University and College Students.

The rules have also been criticized by a number of universities and colleges, some of which have promised to compensate any students who are denied federal financial assistance because of a failure to register.

In a typical reaction, Mr Olin Robinson, president of Middlebury College in Vermont, said it was wrong to expect colleges to verify whether students had in fact registered for selective service.

He added: "Financial aid officers should not become agents of the federal government. Their primary responsibility is to assist students in a relationship that involves sharing confidential information, and their offices should not be used as vehicles for accomplishing disciplinary objectives unrelated to their major functions."

The rules have also been criticized on other grounds. Many colleges argue that because poorer students are more dependent on federal assistance, the new law will discriminate against a particular segment of the population: young males who need government help to pay their way through college.

Students able to pay their own college fees will not be subjected to the same federal scrutiny or penalties as those applying for federal aid, Mr Robinson pointed out. He criticized the absence of any procedures in the new regulations for students whose refusal to register was based on ethical objections.

Reagan cashes in on Boston's high technology boom

from E. Patrick McQuaid

CAMBRIDGE, Mass. In a footnote to his State of the Union address last week Ronald Reagan took his optimism to Massachusetts where record unemployment runs counter to unparalleled opportunity for those with the training sought by the region's booming high technology trade.

Ironically, the president made a symbolic visit to a computer assembly plant in Roxbury - Boston's poorest black ghetto - which simply would not have existed had Mr Reagan succeeded in his efforts to dismantle the federal programmes re-

Fewer freshers aim to be teachers

from Peter David

WASHINGTON Today's new students are less interested in becoming school teachers than any cohort of new students in recent years, according to an annual survey of entering students published by the American Council on Education and the University of California at Los Angeles.

Since 1966, when 21.7 per cent of new students were planning careers as teachers, student interest has declined steadily to the point where only 4.7 per cent of the 1982 freshmen aspire to teaching careers.

"When these trends are viewed in the light of other recent data about prospective schoolteachers, the outlook for our educational system is grim," said Professor Alexander Astin, director of the survey.

"Since recent studies of college admissions tests show that education majors have much weaker academic skills than students majoring in most other fields, it appears that we are headed for a crisis not only in the quantity but also in the quality of

persons who want to teach in our elementary and secondary schools."

Higher education, too, has declined in popularity as a career destination, the report says. Since 1966 the proportion of new students intending to become university teachers has fallen from 1.8 to 0.2 per cent. The proportion aiming to become scientific researchers has fallen from 3.5 to 1.5 per cent.

The career choice category that has shown by far the largest gain in popularity during the same period is business, which increased from 11.6 per cent in 1966 to 20.2 per cent in 1982. Other careers showing dramatic increases in popularity include computing (from 2.9 per cent in 1977 to 8.8 per cent in 1982) and engineering (from 4.7 in 1974 to 12 per cent in 1982). The 1982 survey is based on questionnaires completed by more than a quarter of a million new students entering a sample of 492 colleges and universities. In the 17 years since the annual survey began, more than five million students and 1,200 institutions have partici-

pated.

Consistent with the trends in career choices, the attitudes and values of new students in 1982 showed more materialism and less social concern and altruism than any previous entering class, the survey found.

Being very well off financially has endorsed as a "very important" goal by more than two thirds of the 1982 students compared with 65.2 per cent last year and 43.5 per cent in 1967. The goal of "developing a meaningful philosophy of life" had plummeted to 46.7 per cent compared with 49 per cent last year and 82.9 per cent in 1967.

"This continuing pattern of increasing materialism and declining altruism and idealism may in part be a byproduct of the women's movement since the women have shown much larger changes in career interests and values than have the men," Dr Astin commented. "Nevertheless, since men's values and plans have also changed in similar directions, this would appear to be a

general societal phenomenon."

Changes in student attitudes on other issues show a mixture of liberal and conservative trends. On the liberal side there was increased support for a national health care plan, greater taxation of the wealthy, legalization of abortion and busing to achieve racial desegregation.

On the conservative side there was a continuing decline in the support for abolition of the death penalty, legalization of marijuana and preferential treatment for disadvantaged students in college admissions.

Political self-labels in 1982 showed a reversal of recent conservative trends with the proportion of "liberal" or "far left" students increasing slightly and those describing themselves as "conservative" or "far right" falling. The majority of students described themselves as "middle-of-the-road." New students in 1982 appeared to be more dependent on their parents for financial help. The percentage whose parents contributed at least \$2,000 to their college expenses increased.

Californian students protest at extra \$100

from Charlotte Beyers

PALO ALTO University of California students are protesting at the board of regents' decision to impose an extra fee of \$100 dollars for the spring quarter.

About 150 students from Santa Barbara, San Diego and Santa Cruz as well as the Berkeley campus chanted protests like "education is our right - be prepared for a fight" and carried signs saying "education is a right, not a privilege," as the regents met in San Francisco to vote on the surcharge. Governor Deuk Mejian sat impassively as he listened to the students.

The increase was prompted by a \$23m cut in state funds imposed on the university. The new governor has recommended a permanent increase in UCC's fees of at least \$150 a year to begin in the 1983-84 academic year.

Alex Holt, vice president of the Student Body Council of Presidents, insisted: "We must have a state tax increase that will not jeopardize students and the poor." He quoted a recent survey of 1,440 graduate students in which 206 said they would not have gone to Berkeley if they had known about the university's financial problem.

Jay Weiss, student president of the University of California at Santa Barbara, said: "We don't see violence as a way to change the situation. We are going to withdraw our fees at Santa Barbara and hopefully on all nine campuses we represent a new wave of students. We are much more sophisticated than those who protested in the 1960s."

David Saxon, University of Cali-

fornia president, sympathized with the irate students. "The net effect of the government's actions is to make it increasingly difficult for graduate students to attend the university. Graduate students are most in need of financial aid. Many are married and have no means of support. We will not cut students off if financial aid funds turn out to be inadequate. Washington has treated this group of students most harshly."

Undergraduates are currently paying \$590 a quarter in registrations and education fees with an estimated annual cost of \$5,628 per year for dormitory room and board. The extra \$100 is called a surcharge and is allegedly a once-off payment.

The surcharge will generate \$12m, \$2m of which will be used for emergency financial aid for qualified students. The other \$10m will help make up the university's budget deficit.

Mr Saxon noted that the main burden will fall in students from middle income families with annual incomes of between \$25,000 and \$35,000 who are ineligible for financial aid.

The day before, on the Berkeley campus, 95 students were arrested during a peaceful protest at the university's affiliations with the Lawrence Livermore laboratory and the Los Alamos laboratory in New Mexico, where nuclear weapons are designed.

The demonstrators, wearing red armbands to designate those who would be arrested, sat peacefully in front of university hall attempting to prevent employees from entering the building. The arrests began as the employees arrived.



The Rev. Jesse Jackson: recruited by black college presidents.

Black colleges keep running

Black colleges have decided against carrying out a threat to withdraw from the National Collegiate Athletic Association in protest against new rules which would prevent academically substandard students from competing in big-time university sports matches.

Several colleges had threatened to pull out of the NCAA - the governing body for college sports - following its decision last month to jettison that first year students; who wanted to compete would in future have to have reached a predetermined score on the Scholastic Aptitude Test taken by school-leavers.

At a meeting at Southern University in Louisiana around 20 black college presidents and civil rights leaders said they strongly opposed the new regulation but would remain within the NCAA and try to alter the rule before it came into effect in 1986.

According to black college presidents, the level at which the SAT minimum has been set - a combined score of 700 on the maths and verbal tests - is too high to give black students a fair chance to participate in first-division sports.

According to the College Board, which administers the SAT, nearly 60 per cent of all blacks who took the test failed to reach a combined score of 700 in 1981. For white students the proportion, scoring less than 700 was 14 per cent.

At their meeting in Louisiana, black presidents said they would remain in the NCAA to take advantage of the three-year period before the new rules come into effect. But their anger at the decision remains undiminished and they have enlisted the support of leading civil rights campaigners, including the Rev Jesse Jackson, in a nationwide drive for changing the rules.

The American Council on Education, which devised the new rule and piloted it through the NCAA, may be prepared to consider modifying the SAT requirement.

Overseas news

Greece to abolish the chair system

by Henry Wessner

The new law in Greece governing higher education abolishes the European chair system and establishes a sector, similar to the American department which is to be independent in structure, function and administration and includes a related group of subjects.

It also establishes a national academy of letters and science to ensure that the selection of teaching staff is fairer and to coordinate research and instruction. A national council of higher education is intended to be a structure for social control and is composed of the minister and representatives of academic bodies and of political parties.

Student representatives are to participate in the collective body of the members of the sector on an equal basis. Teaching methods and the testing of learning are to be radically changed. Scientific method and the solution of problems are to replace mechanical memorizing of texts. Marking is to be based not on examinations, but on evaluation of the student's progress in the academic semester, again an approximation of the American system.

The law is in accord with Papan-dreu's platform and speeches, but it is not clear whether it addresses the perennial problems of Greek universities.

The Greek universities do not produce their own professors or researchers. That role has been played by foreign universities, where Greeks go to do their research and take advanced degrees.

There has been little organized research in postgraduate studies. Only 0.27 per cent of the gross national product in 1977 was devoted to university research as compared to 1-1.5 per cent in other Common Market countries. As recently as 1980 only 2 per cent of the budget for the University of Athens was devoted to research.

While the class composition of Greek higher education shows a degree of class selection much lower than in the industrialized countries of western Europe, there is a high level of attrition. More than half the students who enter secondary education never graduate; 50 per cent do not even reach the fourth year out of six gymnasium years. The low degree of class selection is supported by data

showing that a third of university students in Greece were from the village, peasant origin and 10 per cent were from the working class, while in France where 60 per cent of the population are peasants and workers, only about 15 per cent of university students are.

There are few technical or vocational alternatives to attract students to higher education to acquire additional skills or formal advantages. Since secondary education is generally inadequate, the universities in Greece must often perform the function of secondary education. Indirect evidence may be seen by the OECD study that shows 40 per cent of Greek civil servants at all levels possess a university degree as compared with 5 per cent in France. One assumes equal competency in the two national civil servant groups.

Transfer from the technical sector to the university is practically impossible. Graduates of the technical Lykeia can be considered for university entrance only with exceeding difficulty and technical education is held in low esteem.

Greek students show a preference for law and the social sciences (45 per cent of them, the highest figure among all OECD countries), but a concomitant reluctance to study technology and science, (6 per cent, the lowest among all OECD countries). Sweden, a country of similar size has twice as many students in technological sciences as Greece.

Since the contribution of public funds to higher education is minimal, the entire cost of financing higher education studies is private and in view of the high proportion of lower class students it becomes the burden of very poor families to a large extent.

Whether the new law will permit the amelioration of these difficulties is questionable. The admission suggested by the law that such problems exist is a step forward however. And perhaps the two new structures of a national council (a more collegiate decision-making body) and a national academy (recognizing the importance of research by controlling the coordination of teaching and research) will allow several steps towards a higher education system which relates more effectively to a developing economy.

Lecturers face expulsion

from Benny Morris

JERUSALEM

The West Bank military government this week ordered four foreign lecturers in Hebron to stop teaching in a new confrontation between West Bank universities and the Israeli Army in this occupied area.

Major Baruch Nagor, deputy military governor of Hebron, ordered the four lecturers who make up the English department at Hebron Islamic College to stop teaching because they do not have valid work permits. The lecturers are Jeremy Jones, Tim Stewart and Terry Stratton from England, and Ross Birmingham from Ireland. They are guest lecturers at the college.

Dr Jones, who is head of the English department, said that as far as he knew the university had applied for work permits on behalf of all foreign faculty members. But he confirmed that in all probability none of them would sign the anti-PLO undertaking which is included in the application form for a permit.

Last summer and autumn the military government expelled 22 foreign faculty members in West Bank universities after they refused to sign undertakings not to support the PLO in any way. Later the military authorities proposed a compromise whereby the lecturers need not sign a separate undertaking but that dissociation from the PLO would be one of the conditions on the application form for work permits.

The foreign lecturers at Birzeit University, Al-Najah in Nablus, and Bethlehem universities have refused the offered compromise and have so far refrained from submitting new applications for the permit.

The Israeli requirement was later condemned by the US State department and the secretary of state, George Shultz, as an infringement of academic freedom and comparable to the loyalty oaths requiring by American institutions during the 1950 McCarthyite purges.

This week the Israeli security forces detained a young physics lecturer at Al-Najah and roadblocks were installed around the campus which has been closed for the past two weeks because of unrest caused partly by the confrontation over the foreign lecturers.

A university spokesman said that no reason had been provided for the arrest of the lecturer. The spokesman added that the army was still holding nine members of the student council, who were detained a fortnight ago after a rally on campus marking the anniversary of the founding of the Fatah organization.



With the symbolic cutting of barbed wire, playwright Tom Stoppard opens an exhibition at the House of Commons mounted by the Student and Academic Campaign for Soviet Jewry.

Academic sent to Siberia

A Moscow mathematician, Boris Kanevsky, has been sentenced to five years' exile in Siberia for slandering the state after collecting information relating to anti-Semitic prejudice in the mathematics entrance examinations of Moscow University.

His associate in this project, Valery Senderov, is still in detention awaiting trial. An 18-year-old student, Ilya Gelsler, who had acted as their assistant, was given a three-year suspended sentence.

An anti-Semitic bias in Soviet mathematics has been observable for several years. Indeed the London Mathematical Society, which publishes, as *Russian Mathematical Surveys*, translations of selected articles from the Soviet Academy of Sciences' *Uspekhi Matematicheskii Nauk*, has on at least one occasion found itself considerably embarrassed by the implications of the original text.

In 1976, while still a professor at the Kallin State University, and a Communist Party member in good standing Dr Grigorii Freiman produced a scathing expose of the attempts by a relatively small - but politically influential - group of Moscow mathematicians to produce a school of Soviet mathematics that would be *Judenrein*.

This essay, which reached the West in 1978, and which was subsequently published with an afterword by Dr Andrei Sakharov, was widely circulated through the *samizdat* network. When Dr Freiman finally decided to emigrate to Israel, his work

was continued, by Senderov and Kanevsky.

Unlike Freiman, who was able to substantiate his account with transcript material from faculty meetings and committees, Kanevsky and Senderov, who concentrated only on the university admissions problem, dealt mainly in statistics.

Their numerical material for the entrance examinations of 1979, 1980 and 1981 establishes clearly that whereas non-Jewish applicants on an average score in the entrance examinations (both oral and written) marks comparable to those obtained at school, for Jewish or half-Jewish applicants, the examination marks, particularly the oral examination are far lower and frequently do not even reach pass level. Yet many of these applicants had scored high places, or won major prizes, in the annual "mathematics Olympiads" - a nationwide mathematics competition for the especially gifted.

Such anecdotal material, however, as is included in the Senderov-Kanevsky reports reveals a grim picture of distortion (the time of the oral examination being entered wrongly on the examination card, to prevent an appeal, which must be lodged within an hour of the candidate's finishing), "misprints" of the question set to the candidate (which considerably increased the level of difficulty) and callous hints to protesting Jewish parents that their child's case might be reconsidered - if they themselves dropped dead.

China to change enrolment methods

by Peter Mauger

Changes in China's university enrolment system were announced last week by the vice-minister of education, Huang Xinhai, at a conference in Kunming, Yunnan Province. To encourage graduates to work in the countryside, where 80 per cent of the population live, candidates who express willingness to work in rural areas in the fields of agriculture, forestry, medicine and teaching will be admitted with lower entrance marks. Preference will also be given to students from rural areas who want to return to their native places after graduation.

Mr Huang urged the conference members - representatives of provincial education departments, universities and colleges, high schools and state council ministries and commissions - to pay more attention to the needs of society when planning courses. There should be more contact, he said, between employing units and universities to prevent a mismatch between higher education courses and jobs essential for China's modernization programme.

A recent survey at Shanghai's Jiaotong University showed that some 20 per cent of graduates had been assigned to jobs unrelated to their studies. The ministry is sponsoring a pilot scheme this year in

four main cities of cooperation between institutions for higher education and employer units which, it is hoped, will help universities and colleges to predict the needs of society more accurately and make appropriate adjustments to their courses.

It was also announced at the conference that there would be a 10 per cent increase in university entrance places this autumn, to 348,000 new students, including 10,000 enrolled by military academies. Because of the national policy of restructuring secondary education by reducing the number of senior high schools and turning them into vocational and technical schools, there will be 680,000 fewer high school leavers this year. This will reduce the imbalance between supply and demand - last year 1,860,000 candidates competed for 314,000 places.

At the same time the incentives to students from rural areas will do something to soften the complaint that places in higher education are exclusively reserved for youngsters from the big cities. In this connexion the choice of the conference centre is significant. For the first time an important educational conference has been held not in Peking but in the capital city of a distant, rural and poor province.

Australia spends more on courses for migrants

from Geoff Maslin

MELBOURNE The Australian government is to spend an extra DL\$3.27m (£5.5m) this year to provide more courses for migrants at colleges of technical and further education.

The federal minister for education, Senator Peter Baume, said the federal government was spending more than DL\$100m on teaching English as a second language - not all of it in Australia.

The department of education, for instance, produced an elementary radio course for Indonesia, and was planning an intermediate course in English for China, which would begin transmission next year. Plans were also well advanced to establish an Australian language centre in Jakarta.

Senator Baume said the extra money for TAFE colleges was to expand the programme to help migrants develop an adequate command of English for the workplace and to have their overseas qualifications recognized.

Senator Baume said there were 600,000 children in Australian

schools - one in five - who did not come from an Anglo-Celtic background. "In a society such as ours which espouses equality of opportunity, proficiency in English is assumed to be essential if one is to compete with other Australians for social, financial and educational rewards," the minister said.

He said the spending on child migrant education had risen from DL\$1.84m to DL\$6.0m, since 1971. Last year, the government announced that 15 per cent of the TAFE particular purpose recurrent grants would be earmarked for advanced English language instruction for migrants. However, technical and further education groups attacked the decision, claiming there was no evidence it would achieve its desired objective.

The interests of migrants should not be played off against existing programmes and full additional funding should have been provided, a spokesman for one of the groups said. Although nearly a million students are enrolled in various TAFE courses, this year they will receive only 7 per cent of the government's total expenditure on education.

Senator Baume said there were 600,000 children in Australian

THES correspondents take a look at the political scene in Latin America

Mobilizing against the military

Perhaps the strongest impressions about Latin American universities are based on student activism. Critics have decried disorder and radicalism. Others have praised the students' progressive role in promoting just societies. However, stereotyped images of extreme politicization are misleading, more so today than 10 or 20 years ago.

At least three major factors warrant a more sober view of both the extent and the impact of Latin American student politics. One is that exaggerated impressions have been drawn from the events of the late 1960s and early 1970s, when student activity peaked. The other two factors concern important changes since the 1960s. Several nations have seen the advent of military governments that harshly repress student activity. Even more nations have seen the growth of private educational institutions offering themselves as "depoliticized" alternatives to the embattled public universities.

First, there is the legacy of the peak activist period. That period seemed to confirm Latin America, for better or worse, as the world's foremost centre of politicized universities. However, even during the peak period of activism, in-depth studies disproved several stereotypes. In fact, the vast majority of students were not activists, nor extreme radicals. This was especially true in the academically demanding faculties, such as medicine, engineering, and exact sciences. Although student leaders were as likely to spring from these faculties as from the social sciences and humanities, rank-and-file activists were not. Furthermore, despite notable exceptions, Latin American students were not typically "professional students" lurking around the university well past their youth in order to perpetuate radical activities. Most important, evidence did not sustain the view that student activists generally played decisive roles in depressing unpopular national leaders or otherwise shaping national politics to their taste.

Other conventional notions have stood up better under scrutiny. For example, students are generally more active in Latin America than elsewhere, where the dominant tendency is leftist or radical, and severe internal strife is the dominant theme in many institutions. But even much of what was characteristic a short time ago is less characteristic today. Latin America hardly stands alone for having experienced a temporary explosion in

student activism during the 1960s and early 1970s. West Europe and the United States also underwent rather sudden increases followed by normalization.

The decrease in Latin American student activity and political impact stems largely from factors well beyond the control of student activists or indeed the mass of students. Most important has been the move toward hostile military regimes. Principal cases include Brazil in 1964, Chile and Uruguay in 1973, Argentina in 1976, and to a lesser extent, Peru in 1968.

Brazil in the late 1960s and early 1970s, and the other southern cone nations (Chile, Uruguay, Argentina) have dealt with student politics more repressively since their military takeovers than all but a few previous governments this century. Venerable student unions have been banned.

In their place, new organizations are created under close government and university supervision. They are expected to engage in academic and cultural affairs only; politics is either forbidden or limited to endorsements of official policy. Similarly, tight controls are placed on student media, demonstrations, and freedom of speech within and beyond the classroom.

Military rule in the southern cone has had an especially powerful impact on Latin American student activism for several reasons. Beyond holding a major share of Latin America's population, the cone holds an even larger share of its university population (roughly 55 per cent in Argentina, Brazil, Chile, and Uruguay). This is because of the unusual level of development, found in nations like Argentina and Uruguay.

Thus, new governments have transformed student politics in some of the key Latin American nations. In several other nations, where government coercion has not been nearly so decisive, important depoliticization has been achieved through market mechanisms. Of course, the private institutions are also "political" in that they pursue their own, generally conservative, political values; "depoliticization" really refers to the lack of student activism.

Private institutions have arisen and grown rapidly. In 1960, the private sector captured roughly 15 per cent of total enrolment. In 1965 the figure was 20 per cent. But by 1970 the figure was 30 per cent, moving near 35 per cent by 1975.

The rise of the hit-and-run philosopher

A short, middle-aged former philosophy lecturer at a small provincial university, who never makes public appearances, was voted Peru's "Man of the Year" earlier this month by two of the country's main mass-circulation magazines.

The rise of Abimael Guzmán Reynoso has been meteoric, but the details of his recent career remain obscure. Since the late 1970s, under the *non-doguerre* of Comrade Gonzalo, he has been the absolute chief of a ruthless guerrilla movement which has spread like wildfire throughout Peru, and which the elected government in Lima has so far been powerless to halt. The heartland of the movement, which is known as *Sendero Luminoso* (Shining Path), is the small, colonial city of Ayacucho, in the south-central Andes, where Guzmán was once a specialist in pre-Socratic philosophy at the local state university. A career as a left-wing militant stretching back more than 20 years shows that he has always been a believer in combining theory and practice. But his rise to his current clandestine eminence only began when he succeeded in turning the ancient University of San Cristóbal de Huamanga into a rigidly-controlled political base.

This happened in the wake of the Sino-Soviet split, which had profound repercussions on the Peruvian branch of the Peruvian Communist Party (PCP), 6,000 students.

During the bitter schism in the party that reflected events in Moscow and Beijing, Guzmán was one of the founders of a pro-Chinese tendency known as *Bandera Roja* (Red Flag). By 1970 he had founded *Sendero Luminoso*, which this day claims to be the only true Communist Party in Peru.

Guzmán set about building up his support almost

exclusively in the university, among both staff and students. San Cristóbal de Huamanga is one of the oldest in Peru, founded by the Spaniards in 1677. Despite its small size, it enjoys a disproportionately large influence in the isolated, backward and poverty-stricken region.

It is both a big employer — up to one seventh of the labour force in a town of 80,000 inhabitants — and the leader of local cultural and intellectual life. It specializes in science and agronomy, and is the needs of the local economy, which is dominated by mining and stock-raising. Many of the students come from poor peasant families in the region.

Sendero Luminoso succeeded in defeating its rivals for control of the university during the vicious 1970s. Guzmán evolved a highly elitist theory, whereby the university was the only bastion against the encroaching "fascism" of "corporatism" of the corporatism was the last ditch attempt by the ruling class of landowners and bankers to maintain their supremacy, under a political and social system that had first been analysed in the 1920s by the Peruvian communist Party. José Carlos Mariátegui, long since taken over by the "revisionists" — by following the shining path — traced by Mariátegui 50 years earlier. He maintained that there had been no substantial changes in Peruvian society during that period.

By 1977, the first stage of the "construction of the party" had been completed. The vanguard of university-trained cadres were ready to move out of Ayacucho and begin the "prolonged people's war from the countryside to the towns" which Guzmán, following Mao Tse-tung, believed was the only road



Bolivian students carry away the victim of a military coup

While there are several related reasons for this shift from public to private institutions, the escape from student activism is crucial. The reality of extraordinary activism in the public universities is subordinate to the widespread perception of even less widespread than generally supposed. Thus, students (or their parents) interested in order, safety, academics, first, job-relevant training, or any other related "conservative" values, have rejected the public sector.

Private institutions have been created in order to offer depoliticized alternatives and have grown largely by fulfilling that goal. Unlike most public universities, private universities (especially the business-oriented ones) do not allow student participation on governing bodies. More importantly still, they do not tolerate the organizations, demonstrations, and disruptions found in the public sector.

The fundamental degree to which the private sector defies stereotypes of Latin American student activism can be seen in nation after nation. One need only compare, for example, the public national universities in Bolivia, Colombia, Costa Rica, Guatemala, Mexico, or Venezuela, to the Catholic, Los Andes, Autónoma, Francisco Marroquín, Andrés Bello, or Metropolitana universities, respectively. The only national exceptions occur in those very few cases where there is no private sector and perhaps in a few of the nations where recent military rule has repressed activism in public universities so much that private-public differences

diminish in importance.

All this — the true assessment of student activism at its peak, the rise of repressive military governments, and the extraordinary growth of private institutions — means that Latin American student activism is much less widespread than generally supposed. It does not mean, however, that such activism is minimal in either scope or impact.

First, the recent decline in student activism is not a decline in history's nadir, or even to the pre-1960s level. Second, private growth should not obscure the fact that two thirds of total enrolments remain in the public sector. Indeed the public sector has grown more in absolute numbers than the private sector.

Third, there is no clear deterministic trend toward the sort of military rule that has so thwarted student activism in some nations. Whatever the fate of Argentina and Chile, no similar transformation has befallen national or student politics in nations such as Costa Rica, Mexico, and Venezuela.

Such changes in national politics have helped to reactivate student politics. For although students in the non-dictatorial nations are rarely the only romantic or vitriolic accounts, they do often constitute one important force among others. Moreover, whatever role they play in national politics, they do indeed play crucial roles in higher education policy.

Daniel Levy

Return of the death squads

WORLDWIDE

During the last few years San Carlos University in Guatemala has been the scene of some of Central America's worst atrocities. Following the ousting of President Lucas García by a military coup in March last year things improved and an air of normalcy returned to the campus. But late last year the death squads came back.

Under President Lucas the military had identified the university as a breeding ground for left-wing "subversion" and meted out unprecedented repression to squelch opposition movements and dissent. In four years nearly 100 lecturers, a further 100 professionals who had once worked in the university and more than 250 students disappeared or were killed. A series of rectorors were forced into exile or assassinated and in mid-1981 lecturers and administrators formed a university in exile.

Last March a coup by young officers disposed of Lucas and replaced him with General Efraín Ríos Montt, a moderate career soldier who belongs to a bizarre evangelical sect and believes he has been directly mandated by God. In the Indian highlands — where bitter war with left-wing guerrillas still rages — the army's systematic repression continued. In the cities Ríos Montt presided over a dramatic reduction of political violence, dismantling some corrupt police units and apparently reining in freelance police death squads.

An internal university report now in the hands of the Department of Education and Science, said to conclude that the 29 payments were properly made according to the union's constitution, was unlikely to cut much ice with ministers keen to bring student unions to heel.

The Federation of Conservative Students, which was instrumental in bringing the Bradford allegations to the attention of Government law officers, has used *ultra vires* as a key part of its campaign for voluntary union membership.

And the right-wing Freedom Association, which is compiling its own dossier on *ultra vires* activities, sees action against student unions as part of its wider mission to reactivate student politics. For although students in the non-dictatorial nations are rarely the only romantic or vitriolic accounts, they do often constitute one important force among others. Moreover, whatever role they play in national politics, they do indeed play crucial roles in higher education policy.

Last week Dr Meyer appealed to the authorities to investigate the whereabouts of five students who the security forces have accused of belonging to the People in Arms Organization guerrilla group.

One recent victim of the death squads was a 35-year-old history lecturer Rolando Enrique Medina, kidnapped on September 28 last year and not heard from since. His wife Margarita said that Medina had been kidnapped in front of her eyes.

The government claims such disappearances are the work of the far left and are designed to discredit them. It argues the para-military right-wing groups responsible, for all unexplained deaths under the previous regime have disbanded.

Few people in Guatemala City believe them. No one really doubts that the brand new microbuses and used by the killers are government vehicles and that the killing is directed by the army military intelligence department, G-2.

During the relative liberalization of the immediate post-coup period the university again became a centre of dissidence. In June the students' association organized a rare public demonstration dragged from the streets in rural areas. This protest stuck in the throat of the conservative hard-liners who still, despite Ríos Montt's moderate rhetoric, rule the roost in the Guatemalan army. Observers believe the new wave of killings is the result.

Colin Harding

Richard Lapper



Student grant demonstrations: a legitimate reason for spending money, advises NUS

When Sir Keith Joseph told the Conservative Party Conference there was "unfinished business" on the student union agenda, he was widely interpreted as issuing a warning that something would be done to curtail spending on non-educational issues.

Student union donations to political or trade union causes and spending on coach hire to take students to demonstrations are proving a valuable weapon with which right-wing opponents of compulsory union membership are pressing their case with ministers, the press and public.

The signs are that the Government is ready to act — most probably by a court case later this year against Bradford University union over allegations of *ultra vires* payments amounting to £6,000 in little over a year largely on coaches to ferry students to demonstrations on nuclear disarmament and unemployment demonstrations.

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Now it appears the death squads are back on duty. Since September last year at least three lecturers, and 25 students have been abducted. In early October the rector of the university extension college in the north of the country, Raul Romeo Rodríguez, was assassinated. Departments in controversial areas like sociology and politics are either understaffed or suffer a rapid turnover, as an atmosphere of terror returns.

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Why NUS is being ultra careful

The Government may soon act on *ultra vires* payments by student unions. David Jobbins reports



... unlike the Grunwick dispute which provided the climate for the present problems

Student union leaders at Kent University also decided against making a £75 donation to the health workers' strike fund after being alerted to the prospect of intervention at a similar level.

FCS is said to be collecting information on other *ultra vires* allegations involving Leeds and the University of East Anglia. "If enough cases are built up on *ultra vires* payments someone will challenge NUS affiliation", commented Mr Brian Monteith, chairman of FCS.

A case which may eventually point the way is proceeding in Scotland over a challenge to Edinburgh students' association's support for a demonstration against the Corrie abortion amendment bill.

A student at Edinburgh, supported by the Society for the Protection of the Unborn Child, was granted an interim interdict which was challenged by the students' association. In the Sheriff's Court last year it was made clear that while abortion was an issue of interest to students, the Corrie amendment affected women in general and not students in particular. This ruling is being taken to a higher court by the students' association.

One aspect of the Edinburgh case of wider interest is that the sheriff rejected claims that the individual student bringing the case had no standing with the court.

But another avenue which NUS feels appropriate is an approach to the visitor — in many cases the Queen.

The courts have traditionally held that disputes within universities are

not within their jurisdiction until all internal procedures have been exhausted, and have referred a range of issues to visitors for adjudication. Many NUS leaders feel that the *ultra vires* question is coming to the fore as a natural result of a generally left student movement coming into conflict over a wide range of issues with an aggressively Conservative administration which is inclined to give unprecedented credence to the wild men of the right.

But Mr Gerald Hartup, who has followed the student union issue for the Freedom Association, denies a left-right conflict. "People who are interested, in student politics tend to be left-wing. But people have a right to be apathetic — either in trade unions or student unions".

NUS advises that payments for coaches for grants demonstrations would be "ultra vires" but that support for industrial disputes such as Grunwick (or the health workers) would not.

Bradford has tightened its internal procedures since the row over its activities blew up. Following questions raised at Lancaster University NUS took counsel's opinion on the protection for its own affiliation fees.

"Such payments represent not a donation but a payment in respect of benefits and services rendered by NUS to a student union and its members... Such benefits and services are... within the permissible charitable objects."

But it is clear that should NUS become more political, the legal view may change.

many, the United States, Sweden, and France.

In October 1981 the archive's grant from the SSRC was renewed for three years, and soon after its name was changed from Survey Archive to Data Archive, reflecting a slightly wider remit. It now aims to store a full range of social statistics, including those collected by or for central government. Deposits include data on industrial stoppages, school statistics, and also on long term unemployed and young people.

The archive receives 20 to 30 inquiries a week, sometimes for quite unusual material. One recent caller, a medical researcher, inquired about the physical dimensions of the British population. But it does not take on analysis for researchers because of costs, spiralling inquiries, and also because it wants to encourage researchers to learn the techniques themselves. It has 16 staff including eight academic and six technical workers.

Usage has increased steadily over the years from eight in 1972/73 to a peak in 1980/81 of 222 users calling for 582 sets of data. The slight fall last year when 193 users called for 945 data sets was partly due to researchers awaiting the 1981 Census tapes. The majority are from universities, polytechnics, and research bodies. But the archive is keen to attract a wider clientele, particularly from local authorities.

But surveys are expensive, tedious, prone to duplication, and subject to over-analysis. Duplicating data is cheap, so the way was paved for the SSRC to launch its data bank.

Sir Keith Joseph is concerned about the scientific nature of social studies. He could do worse than visit the Essex archive.

Paul Flather

Making sense of the 1981 Census

The SSRC's Data Archive has almost finished taking delivery of its largest survey.

over is under scrutiny. Ordnance Survey maps linking these districts to geographical areas are also stored at the archive.

Dr Nigel Walford, a senior research officer at the archive, is looking after the census tapes full time. He is running a series of workshops and seminars explaining the potential importance of the material, which he describes as a "10-year benchmark of social and economic contours of the nation."

"From the tapes we can see if the population is getting older or younger, how mobile people are, and where they are moving. All this is vital for analysing social trends," he said. It is particularly important as the 1976 Census was cancelled for financial reasons. His own work from the tapes on the eastern counties of England, for example, reveals a great increase in car ownership since 1971.

The last of Dr Walford's regional talks linked to the computer centres has just taken place at Bristol University. But others covering the history, use, arrangements for distribution, and perhaps local examples, are planned for Durham, Sussex and Aston universities, South Bank and Liverpool polytechnics, and Wye College, London University.

The archive was set up in 1967 with a brief to collect and preserve machine-readable data linked to social and economic affairs from

academic, commercial, and government sources, and to make it available for secondary analysis. It now holds more than 2,050 surveys covering national and regional political data, housing, education, and welfare studies, urban planning, population, recreation and leisure, consumer, and socio-economic affairs. The range covers time-series data, major longitudinal studies, and cross-national studies.

Important government surveys in stock for example include previous census tapes, the annual Family Expenditure Survey of consumption by the Department of Employment, the annual General Household Survey, the biennial Labour Force Survey by the EEC, the national food survey, and a dwelling and household survey done in 1977/78.

One of the most interesting holdings is the 1981 Census reconstructed by Professor Michael Anderson, professor of economic history at Edinburgh, with an SSRC grant. Based on a 2 per cent "clustered sample" and covering 415,000 households, it allows for some far-reaching comparative analysis.

The archive has also gradually accumulated all the regular opinion poll data produced by the main commercial agencies such as National Opinion Polls, Gallup, and Louis Harris. There are also foreign exchange facilities with archives in Belgium, the Netherlands, West Ger-



Dr Walford: a full-time job

terial. The tapes contain all the Small Areas Statistics data collected on the Census schedules completed by every household in the United Kingdom on the night of April 5/6 1981. Much of this, on 88 tapes, is processed for the whole population, but some of the more complex analysis involving cross tabulations are coded on the 70 so-called 10 per cent tapes. Using details such as higher education qualifications, occupation, car ownership, these tapes are used to travel to work, the means used to travel to work, social classifications, and socio-economic groupings of the population in every area.

The data is in fact split up into 130,000 enumeration districts which can then be aggregated to make up local authority areas, parliamentary constituencies, or counties, which



The Kariba dam: such constructions are not easily studied at university.

Design for living

Jon Turney reports
from a pioneering
conference at Bath

The newly graduated civil engineer is a narrow-minded specialist. He, or occasionally she, begins work prejudiced against other specialists, behaves arrogantly in mask an underlying inferiority complex, and may never overcome an inability to work in a team. Professor Fritz Wenzel, who put this view to a student conference on the nature of engineering design last week, was speaking of German graduates. But the British conference was also inspired by misgivings like these.

In fact, the misgivings were first voiced by students at Bath University, the conference venue. Their dissatisfaction arose because of the unusual structure of the civil and structural engineering courses at Bath. As Professor Wenzel, of Karlsruhe University, made clear, emphasis on calculation and technique at the expense of design or aesthetics is the rule in engineering courses. He lamented the way the roles played by different professionals in a building project have moved further and further apart since the day of the "master builder" who was architect, engineer and artist in one.

However, Bath cuts across this now hallowed separation to some extent. Engineering teachers' concentration on analysis was especially obvious to students in Professor Ted Hapgood's department of building engineering at Bath because civil and structural engineers there are taught jointly with architects for nearly two years. Why, they asked, aren't engineering designers as well known as architects - who should we look up to instead of Frank Lloyd Wright, Le Corbusier or Mies van der Rohe? And why does no one speak to us about engineering design even if designers aren't public figures?

The answers, it seems, lie in a self-perpetuating weakness in the university curriculum. "We teach what's easy to teach," Dr Stephen Ledbetter of Bath suggested. And most engineering lecturers are unhappy talking about design because of their own limited experience. At the same time, the people who could help are too busy, designing, to pause and explain what is really involved in conceiving a new bridge, a dam or an offshore oil platform.

Well, perhaps not entirely too busy. The solution students and staff at Bath came up with was to try to persuade leading designers to come to their conference, talk to students and spend time in discussion groups and supervising design exercises. Almost all accepted.

Other parts of the organization proved a little harder. A subsidiary goal was to bring together students from different universities, but some heads of departments were loath to let their engineers come in term time. The Bath organizers disagreed with the implication that three days of standard course lectures must be more educationally profitable than any competing attraction at another university and tried to contact students in these departments directly. The second obstacle was the lack of what report conference coordinators regard as prerequisites: money and accommodation. Fortunately, the invited speakers were enthusiastic enough to give their time free, and

everyone, speakers, lecturers from other universities and 300 or more students, was put up somewhere, although for most of the students attendance meant sleeping on floors, or even in local church halls.

The result was a very informal meeting of students from all over the country, though not from Oxford, Cambridge or London, as Bath's vice-chancellor noted. And over the talks from the conference they heard Europe's leading engineering designers. Among the most distinguished was Fritz Leonhardt, "probably the greatest living civil engineer", according to Professor Hapgood; Oleg Kerensky; Paul Back; and Stefan Tietz.

If none of these is exactly a household name, that underlines the point of the conference. For the students, it was a rare opportunity to hear the views of people who helped design, among other things, the Munich Olympic stadium, the Kariba dam, and just about every famous bridge. As he recalled, from the Firth of Forth to Sydney Harbour. Their design credentials were demonstrated by the profusion of slides most used, which brought home the civil engineer's unanswerable reply to the question of why engineers are rather dull people with limited horizons: instead of books, papers or lectures, engineering designers help produce useful, striking and often overwhelmingly impressive objects and artefacts. And they are not constructions which can really be studied in universities time far beyond the resources of an academic institution. As the bridge designer David Lee put it: "Engineering is an art form which has the distinction of having a direct effect on our lives physically - in fact it is the most important art form, in the only way we move forward."

The selection of speakers was a gamble. It was clear few were often asked for philosophical reflections on design. Their forte lay in taking a project brief, interpreting it, and presiding over the required design from conception to construction. Stefan Tietz probably spoke for many when he compared the invitation to dissect this process to asking a centipede how to walk: "I know how I got here but I couldn't tell you which leg I moved when."

However, most of the lecturers strove to convey something of the path they took to a successful design. Naturally, some succeeded better than others, but the highlights were enough to give any student civil engineer food for thought. Dr Paul Back explained how, even when erecting a vast concrete wall to retain many millions of gallons of water, he tried "to work with nature rather than against it". He maintained that a dam could enhance a landscape rather than spoil it.

Derek Suggden of Arup Associates gave a marvellous, roving dissertation on the balance between en-

gineering intuition and architectural precedent. Passing from Sung dynasty public buildings in China around 1,000 AD via Stephenson's locomotives and the iron bridge at Coalbrookdale to the American and Russian lunar vehicles of the late 1970s, he showed how even the most abstract design is shaped by cultural precedent, and structural forms evolve with changing materials.

Professor Tom Mavor of the University of Strathclyde complemented this dip into the past with a look at the future opened up by the latest computer-aided design techniques. He suggested that the ease and realism of visualization new computer programmes offer will permit users to play a much more active part in design decisions. Trials in Glasgow have shown that nursery teachers can produce school designs which compare favourably with plans by corporation architects.

And John Derrington of Sir Robert Macalpine and Sons took the audience through the different stages and levels of decision in a really large project like the concrete gravity platform his company built for North Sea oil production. Even at this level, he emphasized that most design involves no real stress and force analysis as it is taught at university, and needs little mathematical rigour. As several other speakers also observed, sketches, rough calculations and an informed feel for behaviour of the material over a wide range of conditions were more important than mathematical rigour.

James Gordon, professor of materials science at Reading University, said that while stress and force analysis "provides superb exam questions", it was actually very poor for large structures. But as with the other contributors, his general point was not to disparage the formal techniques taught on undergraduate courses, but to urge that they should not be the exclusive focus of the curriculum. The additional ingredients of good design were characterized as stemming from intuition, concern for the eventual users of the structure, a feel for aesthetics or concern for wholes rather than parts. Sometimes, the qualities not directly related to the function of a structure were obvious - it is difficult to design an ugly suspension bridge. But more often they relied on more nebulous ingredients - according to Stefan Tietz: "Design above all seeks fitness for purpose, and the purpose at its best includes some delight."

From the accounts of real design processes, and the way they evolve through consideration of brief, costs, materials and action and reaction in discussions with architects, contractors and customers, it was easy to see the problems of teaching much about the business before the student becomes a practising engineer.

The result, in structural engineer Frank Newby's view, was that "when you leave university it's a matter of luck whether you work with someone who can introduce you to how structures are conceived - and to the history of such things". That, in essence, was the gap the conference was trying to fill, and the student audience seemed to find it a stimulating exercise.

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William Bonfield describes the contribution made by materials science to the technological advance

A science for the future

Twenty years ago, a sixth-former looking through a list of possible university degree subjects or scanning through the major scientific and engineering journals would have found no direct mention of materials science. In contrast today, over 20 degree courses in materials science are on offer in British universities, while the *Journal of Materials Science*, which started as a quarterly in 1966, now appears as a monthly issue containing 350 pages, with articles from authors in 50 different countries and a world wide circulation.

The impressive growth of the subject in this period has been stimulated by its relevance to industrial needs. It is evident that all engineering products have to be constructed of "suitable" materials, but the selection of the "right" material for a particular application can be a difficult and demanding task. Materials science provides the means of approaching this problem, as it combines a knowledge of the structure and properties of those materials useful in engineering, namely metals, polymers, ceramics and glasses, electrical materials (such as semi-conductors) and composites ("tailored" mixtures of different materials).

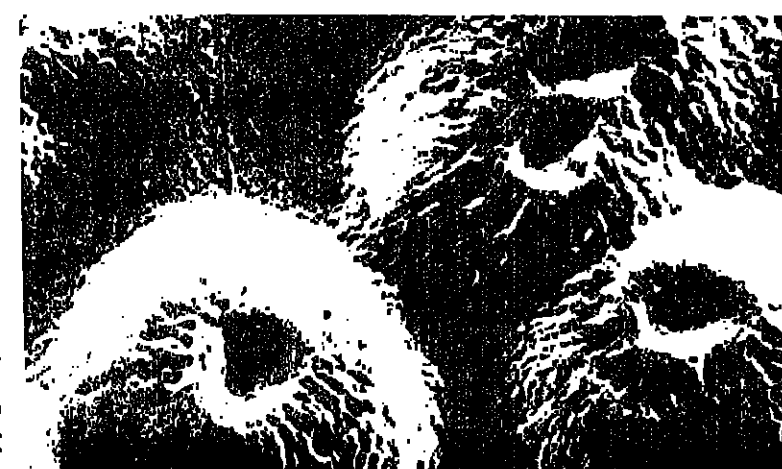
The dependence of an industrial society on materials of course predates materials science by many centuries. The progress of early man was aptly recorded in terms of the progress from the stone age to the bronze age, followed by the iron age, which, in a materials sense, and perhaps renamed the steel age, extended through the industrial revolution, when the ability to make, shape and form iron and steel was a key element in industrialization, until modern times. As metals provided the paramount engineering material during this period, an associated academic study of the extraction, structure and properties of metals, or metallurgy, had been established in several British universities, by the late nineteenth century.

Metallurgy remains today as an important academic discipline, as metals still constitute a major portion of engineering materials, but the development of materials science has reflected the increasing industrial utilization of other materials in response to the increasing complexity of design and, not least, the emergence of the semi-conductor based devices. Indeed the essence of materials science is that by considering all possible engineering materials, including metals, as within its context, the practitioner of the subject can decide the issue of which material is most suited for a particular application.

The scientific core of materials science, in common with metallurgy, related to an understanding of structure, properties and of the correlation between them. Materials may be conveniently divided into amorphous and crystalline solids. Amorphous solids such as glass and some polymers, consist of atoms arranged in a random manner. In contrast, in crystalline solids, comprising all metals, ceramics and some polymers, several atoms are arranged in a regular manner, in unit cells (of dimension $\sim 10^{-10}$ m) which are packed together to form crystals (of dimension from 10^{-3} to 10^{-6} m). If all the unit cells were packed together with the same orientation, then a single crystal is produced. While crystals can be readily observed by eye or by optical microscopy, information on the unit cell configuration requires the use of radiation with a wavelength of the same order of the spacing of atoms in the unit cell and the development of X-ray diffraction by Bragg in 1910/20 proved an admirable technique for this purpose, which remains of considerable importance. It is possible by X-ray diffraction to determine the unit cell structure and size (the lattice parameter) of any given crystalline solid either alone or in combination with other solids.

For example, copper and nickel as pure metals have the same unit cell structure, but different lattice parameters. When any combination of copper and nickel is melted together and then solidified, only one type of crystal can be identified under the microscope, a microstructural entity or phase which consists of a solid solution alloy formed by the substitution of copper atoms for nickel atoms in the unit cell, or vice versa, a process which results in a different lattice parameter to either of the starting metals. The Cu-Ni alloy is one of the simplest types of alloy, but in a similar manner, the unit cell structures of alloys of increased complexity involving several elements and multiphases can be unravelled by this technique.

If crystalline solids were built in the perfect manner that has been described so far, then no further characterization would be required, but in general there are defects in the atomic packing, within crystals, which have profound effects on the resultant properties and which also require definition. Of particular concern are line defects (dislocations) which can be loosely considered as local irregularities in atomic packing. It is noteworthy that this important concept was derived theoretically about 25 years before the development of transmission electron microscopy (TEM) in the late 1950s allowed a direct visual confirmation of its correctness. Initially the resolution available by this method limited observations of dislocations to "imagined" structures, but the intensive development of TEM during the last decade and the consequent improvement in resolution (to $\sim 2 \times 10^{-10}$ m) has allowed direct lattice imaging of dislocations in a variety of metals, semi-conductors, ceramics and polymers.



A scanning micrograph of polyethylene which has been chemically treated to reveal the "spherulitic" crystal structure

permanent deformation), while aluminium fractures in a ductile manner (ie with considerable permanent deformation prior to fracture).

From the standpoint of designing a structure, it is necessary that the applied stress does not exceed the yield strength of the material, and that the change of shape produced by the applied stress can be accommodated. The latter point can be resolved by selecting the particular stiffness required as a wide range of stiffnesses are available between different materials. For example, on the same scale (as defined by the Young's modulus (E) in GNm^{-2}), we have a polymer such as polyethylene with $E = 1$, aluminium (and glass), $E = 70$, copper, $E = 120$, steel, $E = 210$, alumina, $E = 365$ and so on. In contrast, the yield stresses (strictly, the critical resolved shear stresses) of most pure metals in single crystal form are comparable and too small for any significant structural design to be contemplated. This result is a direct consequence of the presence of dislocations within the crystals, as it is the movement (and multiplication) of dislocations which results in yielding and plastic deformation.

To produce a suitable structural material from this starting point, it is therefore necessary to increase the yield stress by either removing all the dislocations, or by introducing "obstacles" to their movement. The former treatment is unfortunately only possible on a macroscopic scale in semi-conductors such as silicon and certainly demonstrates the point that a dislocation-free solid has a yield stress approximating to a perfect theoretical prediction for a perfect

solid. However, the important application of dislocation free, single crystal silicon is not as a structure, but as the essential prerequisite for the ubiquitous "silicon chip" technology. The alternative treatment of introducing "obstacles" to dislocation movement as a means of increasing the yield stress may be achieved by increasing the number of dislocations (ie giving more intersecting dislocations), increasing the number of crystal boundaries (ie using a polycrystalline solid of small crystal size) and introducing "other" atoms or different phases. By these means, the yield stress can be substantially increased to levels permitting structural application and, as for stiffness, giving a range of values for different materials.

One method of substantially altering both the stiffness and the yield stress of a material is by a mixture of materials referred to as a "composite". This has a particular benefit for polymers, for which the stiffness ($E = 1-5 \text{ GNm}^{-2}$) is too small for many structural applications (ie too much change in shape is produced by an applied stress). However, by reinforcing the polymer with a significantly stiffer material such as glass fibres ($E = 70 \text{ GNm}^{-2}$) or carbon fibres ($E = 200-400 \text{ GNm}^{-2}$) then a composite of substantially increased stiffness is produced. As the glass and carbon fibres are also stronger than the polymer matrix, the strength of the composite is also increased.

Hence, considerations of stiffness and strength are basic factors which are important in materials selection for design. While seeking to prevent the operating stress exceeding the yield stress, situations may sometimes occur in which an overload is catastrophic in terms of producing an immediate fracture if the material is "brittle", when considerable plastic deformation can occur. However, it is an important consideration which has tended to preclude the use of "brittle" materials in structural design. Sometimes, the distinction between ductile and brittle is not clear cut and indeed many of the higher-strength materials only exhibit limited ductility. For these brittle and semi brittle materials, it is necessary to define fracture more carefully in terms of an applied stress and of a characterized surface crack. In general, an increase in the introduced crack length reduces the applied stress for fracture, but for a given toughness, a unique value of fracture effects, which combines the material of stress and surface cracks can be evaluated. Such a consideration of fracture will dominate the forthcoming Sizewell inquiry on the proposed PWR nuclear reactor, as the argument essentially turns on whether the material constituting the pressure vessel is sufficiently "fracture tough" for catastrophic fractures to be "unlikely". A similar view has dominated research on ceramics, which are essentially brittle, with the "toughened" ceramics, such as silicon nitride and zirconia, which are now available, creating new applications for these materials, with the inviting prospect of ceramic pistons and perhaps, in the future, an all-ceramic diesel engine.

Other complications in materials application may arise from the ap-

plication of stress in a cyclic manner, as for example in the case of vibration in an aircraft wing, which can result in "fatigue" over a period of time, namely a sequence of plastic deformation, crack formation, crack propagation and fracture at stress levels well below the normal ultimate tensile strength. Equally the application of stress at a sufficiently high temperature can produce continuing plastic deformation at a constant stress ("creep"), leading finally to fracture.

For example, the turbine blades (made of a nickel based alloy) on the outlet fan of a jet engine are subjected both to hot exhaust gases (at $\sim 700-850^\circ\text{C}$) and an applied stress due to centrifugal rotation, a combination of stress and temperature which must be carefully controlled to minimize creep deformation and to avoid creep fracture. Superimposed on all materials applications is the influence of the particular environment, which can either produce oxidation or corrosion as singular effects or contribute to an acceleration of the prevailing fracture, creep or fatigue mechanism. One example of this demanding situation is provided by the application of materials as prostheses in the human body. Total-hip replacement is one such procedure, (with approximately 30,000 operations per year in the UK), in which the femoral head is replaced by a cobalt-chrome alloy or titanium alloy, which is inserted into the marrow cavity and fixed in position with a polymer "cement", while the head of the alloy locates in an acetabular polyethylene "cup" in the pelvis.

The combination of materials used in this operation must be biocompatible (ie not produce an adverse tissue reaction), and able to withstand, in the prevailing body fluids, the various direct and alternating stresses applied to the hip for a "reasonable" period. In practice, it appears that after 10 years about 50 per cent of the joints are likely to have "failed", not in the main due to creep (or wear) of the acetabular cup or fatigue (or stress corrosion) of the alloy, but rather because of "loosening" due to failure of the cement bond, an effect exacerbated by the enlargement of the marrow cavity due to changes in the natural bone itself. This result demonstrates that in this application the structure and properties of bone as another "material" should also be considered and indeed this has been a fruitful field of study for many years.

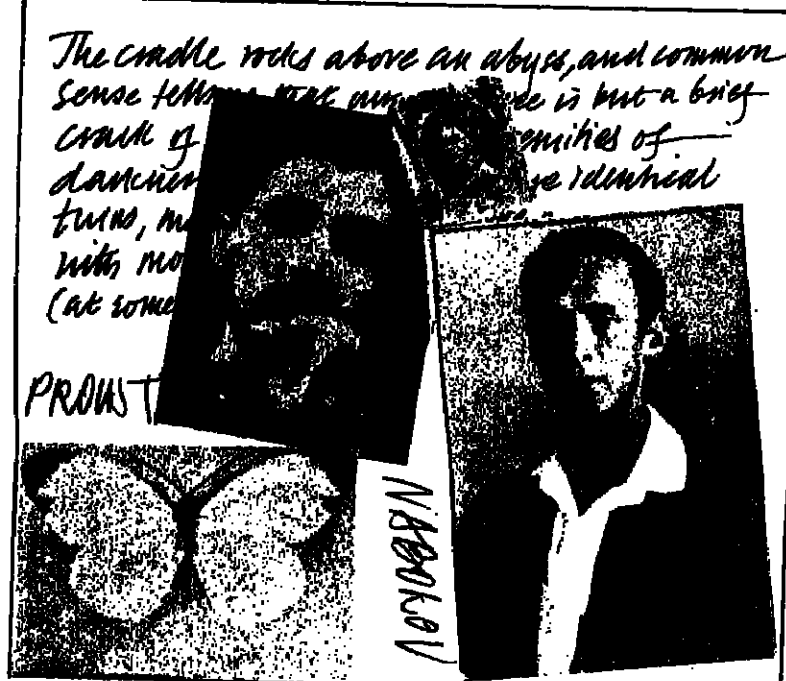
With a knowledge of structure-property relationship in engineering materials developing from the concepts outlined in this article, the materials science graduate has broad industrial horizons - he or she is able to critically select materials to particular specifications and to test their quality to contribute to a design process, to organize a production schedule involving the forming, joining, heat treatment and finishing of materials to analyse field failures and to develop improved or new materials if existing materials prove inadequate.

This last point is likely to prove a continuing process, as no one class of materials can yet be considered to have reached its ultimate development. As well as the examples mentioned previously in current research, we have metals being produced in an amorphous form by a very fast cooling technique, polymers being produced with a preferred orientation or as large single crystals, combinations of glasses and ceramics forming glass-ceramics, hybrid-composites involving multiple fibre reinforcement, carbon fibres reinforcing aluminium alloy wire and alumina being toughened by zirconia particles. Consequently, materials science offers a bright future to present and future graduates in the subject - indeed their contributions will be of vital importance if the UK is to continue to exist as a technologically-advanced country.

The author is professor of materials at Queen Mary College, London and Editor of *Journal of Materials Science*.

An X-ray of a total hip replacement operation, showing a titanium alloy implant inserted in the marrow cavity of the femur and located in a polyethylene cup in the pelvis

I will remember



Carol Burns discusses autobiographical writing

And now, who am I? I will remember, if I can! I'm determined to do it!

Lewis Carroll's Alice was a determined child. I prefer a more tentative, passive remembering. Reams of white paper can be daunting to the beginner. The collage method of collecting "stills" helps to lessen such fears.

Autobiography begins with collecting memories, unedited "stills" which are later structured into a coherent form. The fusion between this intuitive (unconscious) and editorial (conscious) activity can be a complicated process.

Cicero, in *De oratore*, tells how the Greek poet Simonides invented the art of memory.

He inferred that persons desiring to train this faculty (of memory) must select places and form mental images of things they wish to remember and store these images in the places, so that the order of the things, and the images of the things will denote the things themselves, and we shall employ the places and images respectively as a writing-tablet, and the letters written on it.

Plato, in *Theaetetus*, makes Socrates assume there is a block of wax in our souls. "The art of Memory," the mother of the Muses, Frances Yates in *The Art of Memory* says that whenever we see, hear, or think, we hold this wax imprint under the perceptions and thoughts and imprint upon it. Unlike Aristotle, Plato believed that latent in our memories there were the forms or moulds of ideas which the soul knew even before we were born (*Phaedo*).

Conscious recall has its limitations because there are such powerful mechanisms for forgetting. Forgotten memories go into cold storage and we have to find subtle ways to release them. Often these "moments" were accompanied by sense experiences: sound, smell, taste, touch, known to us during pre-verbal states. It seems our brains recorded everything we experienced even before birth.

Autobiographical writers can learn from the novelists. Virginia Woolf, in *A Sketch of the Past*, describes her mother's dress:

A black gown with a mother's dress and she was sitting, either on a chair or on an omnibus, and I was on her lap. I therefore saw the dress, and she was wearing a red dress and can still see purple and red and blue. I think, against black, they must have been ancient ones. I suppose.

The image led to another memory. It has a base that I stand upon. It is a base that one fills with and fills of then my bowl without a drop of water upon this memory. I am of light, I am asleep, half awake in bed in the nursery of

St Ives. It is of hearing the waves breaking, one, two, one, two, and sending a splash of water over the beach.

Images lead to images. A yellow blind reminds her of the acorn on a string being dragged across the floor as the wind blew the blind. She remembers her feelings of ecstasy. The pattern is clear: from the image of a dress to the sound of waves and a heightened moment of happiness. Like one of Joyce's "epiphanies", a moment is encapsulated in a concrete picture. Sight and sound overlap. She writes that things felt with great intensity "have an existence independent of our minds". The past is "an avenue lying behind; a long ribbon of scenes and emotions". She hopes that one day someone will invent a device that will enable her to plug into her past and turn up again in her nursery.

A writer struggles with his time mechanism. Events are laid down sequentially. It is a matter of finding the right words to describe that which will capture experience or sensation.

Simonides seconds Virginia Woolf. His invention rested not only on the importance of order but also on the discovery that the sense of sight is the strongest of all the senses and affects the hearing.

... the most complete pictures are formed by our minds of the things that have been conveyed to them by the senses, but that the keenest of all our senses is the sense of sight, and that consequent perceptions received by the ears or by reflection can be most easily retained if they are also conveyed to our minds by the meditation of our eyes.

Another novelist, Marcel Proust, saw the work of art as "our only means of capturing lost Time. In *Remembrance of Things Past*, he links visual memory to taste:

Will it ultimately reach the clear surface of my consciousness, this memory, this old, dead moment which the magnetism of an identical moment has travelled so far to importune me, to disturb, to raise up out of the very depths of my being? Ten times over I must see the task, must descend down over the abyss, and suddenly the memory returns. The taste was that of the little crumb of marmalade which on Sunday mornings at Combray my aunt Leonie used to give me, dipping it first in her own cup of red or lime-flower tea.

Long after the past has been lost people are dead, things are broken and scattered, and unsubstantial. Proust writes that the smell and taste of things remains "poised, like our souls, to be recollected. He draws an analogy with photography. The past is

encumbered with countless photographic negatives which he there useless because the intelligence has not "developed" them. Memory is triggered off when it is tied to an emotional event. When we are moved our perception of objects is heightened. Virginia Woolf

describes "the shock-receiving capacity" of the sensitive writer. Writers are more easily affected by emotive moments in their lives, followed by a desire to explain them. She believes that many autobiographies fail because authors "leave out the person to whom things happened". They write about events without showing the person who experienced them. In novel writing there is more leeway for the imagination than in autobiography. The latter cannot stray too far from the facts (although some have been known to do so, if only by omission). Novelists are used to dredging up and sifting through family "stills". Vladimir Nabokov is a past master at the game of nostalgia. His autobiography, *Invitation to a Beheading*, begins:

The cradle rocks above an abyss, and common sense tells us that our existence is but a brief crack of light between two eternities of darkness.

Retrieving his childhood is the next best thing to "probing one's eternity".

I see the awakening of consciousness as a series of spaced flashes with the intervals between them gradually diminishing until bright blocks of perception are found, affording memory a slippery hold.

Letters of the alphabet are linked to textures and colours and sounds. He sees the compulsion to dredge up past facts with "an almost pathological keenness" as a hereditary trait. He has a poet's ability to connect images. The chink of light seen through his shutter in "the legendary Russia of my childhood" becomes the blue sky rediscovered years later in Colorado. Trying to recall Colette, a French girl from Biarritz, he remembers a ribbon on her Scottish cap (or was it a pattern of her stocking, he asks) which reminds him of the rainbow spiral in a glass marble, "that wisp of iridescence". He writes that the spiral is "a spiritualized circle".

He shows us a few slides, compares his efforts to peering through his microscope at insects' organs. He makes surreal leaps. Knowledge and imagination fuse. Images produce a torrent of sounds, voices speaking in unison. He hears a walnut being cracked, heartbeats, trees sighing, birds and the shouts of bathing villagers. He is a magpie who stockpiles souvenirs. He uses documents, diplomas, drafts, diaries, identity cards, pencilled notes and photographs to evoke his father, Tamara, his 15-year-old cousin, is retrieved through "the carefully wiped lenses of time" through love letters (and reproduced years later as Lolita). An exile, he has lost his country which can only be rescued and resurrected through words. He mourns the passing of time. Writing is a compensation.

Everything is as it should be; nothing will ever change, nobody will ever die. In writing an autobiography one has to research into inner and outer worlds to find the self which radiates from the centre, as opposed to remaining in a "fixed, chronological grid". Carl Jung, in "Confrontation with the Unconscious", notes his "incessant stream of fantasies". Images from his unconscious produce near hysteria as he struggles to find the meaning of the mandala.

I began to understand that the goal of psychic development is the self. There is no linear evolution; there is only a circumambulation of the self. Uniform development exists, at most, only at the beginning; later, everything points to the centre. I knew that in finding the mandala as an expression of the self I had attained what was for me the ultimate.

Whereas imagery is reasonably accessible, dialogue (both inner and outer) presents problems. Fragments like flickers on the surface of our minds. We hear the voices of parents, siblings, grandparents, school friends, spouses, enemies. Family life told by relatives are often the relic of stories handed down to us by grandparents which have been legitimized. We are an amalgam of others' voices. As Wittgenstein says, "We are language".

To recapture our own and others' words we must tune in to allow the lost sounds to flow through us, using the intuitive part of ourselves. In his *Surrealist Manifesto*, André Breton has described his method of automatic writing as an aid to remembering obliquely. He suggests writing without pausing to think. If we become too self-conscious and stilted we have made the mistake of "inattention" to our inner voices. Virginia Woolf has described states of near madness as "the voices which fly ahead". In the stream of non-stop, whispering voices inside us, words drift to the surface from a store of unconscious memories; bits of nursery rhymes, old dance songs, a scolding teacher's voice. Free associations spring from small threads. Flash-backs form and other flash-backs join them. These floating atoms will later form the molecules which will lead to the making of individual paragraphs and chapters. Flash-backs occur, as the word suggests, in flashes. A flash-forward can help to integrate past and present.

If dreams form when the primal (latent) and present (manifest) moments interconnect, then dreams are of paramount importance to the autobiographical writer. Lost memories resurface in strange disguises. Once the autobiography is underway, dreams help like yeast to make the book "rise". When blocks occur, because the pain of loss, for instance, is too much to bear, dreams help to release repressions. In his paper "Screen Memories", Freud writes that childhood experiences leave "irradiated traces" in the depths of our minds.

If, however, we seek in our memories to ascertain what were the impressions that were destined to influence us to the end of our lives, the outcome is either nothing at all or a relatively small number of isolated recollections which are often of dubious or enigmatic importance.

Not until we are six or seven, he says, are we able to produce our lives as "a connected chain of events".

From that time on, however, there is a direct relation between the physical significance of an experience and its retention in the memory.

A fantasy can overlap a real memory. When fact and fantasy merge the "truth" is lost and only an approximation to the real is available to us. Freud writes:

Seven memories dealing with later events in life owe their importance to a connexion with experiences in early youth which have been suppressed.

The present is reproduced in the past. It may be questioned whether we have any memories at all from our childhood; memories relating to our childhood may be all we possess.

The child at the centre of an emotional experience, inside it, now becomes the adult looking back from the outside, writing about it. Memories can be displaced or falsified and as such cannot always be trusted.

Certain artists have lived in a dream world where sanity and madness overlap. Fantasy and reality fuse. The playwright August Strindberg describes how his nervous system was "sharpened by physical and psychical suffering". In hallucinatory states he charted his "deranged sensory impressions". His pillow takes on a feather shape and is filled with birds' feathers and talking crickets or grasshoppers.

The poet Antonin Artaud writes: "A man possesses himself in flashes, and even when he does possess himself he does not quite overtake himself."

He studies himself microscopically, watching himself watching himself. I am a witness. I am the only witness of myself. I am the only witness of the gravitation of the planets in the fissures of my mind.

Artaud seeks new dimensions, thinking about himself and the universe. Proust wrote about the intermingles of the heart. Artaud's intermingles of being. The autobiographical writer has similar problems to other writers at the later, editorial stage. He must transform random material into a harmonious whole. (Coombes) Material dredged from the subconscious has to be organized. A process of revisioning must take place. The

editorial self takes over and draws up a chronological synopsis for each chapter. This structure prevents a book from becoming an inventory of isolated episodes, dramatizes and shapes paragraphs which could so easily deteriorate into a meander down memory lane.

In addition, the more aware a writer is of the social and political climate of his times the greater will be the book's universal appeal. A classic example of a novel which hovers between the documentary and fiction is Maxim Gorky's *Childhood*, where a boy grows up in pre-revolutionary Russia sheltered by his grandmother, Elizabeth Lutyens, in *The Goldfish Bowl*, describes her domestic problems and struggles as a composer against the background of the Second World War.

I had put on the fire, despite the warm weather, to dry the black ink the quicker, and had just left my desk by the window to check the drying. This undoubtedly saved my life for, with an unannounced crash, the windows shattered and the blast, ignominiously, rolled me up in the carpet like jam in a Swiss roll. After extricating myself I went to examine the extent of the damage to the score. Huge slices of glass were embedded in my desk, which would have been in my head, and splinters were everywhere. Luckily, only one had cut into the page - which, although messy, was still legible.

In the worst autobiographies the writer propagandizes an image of himself as a hero, addresses the public as "Dear Reader", philosophizes about his plight and the deplorable, moral state of his country. At its best it is a living portrait of an individual and the society he lives in, and as such can serve as a unique social document.

Autobiographical writing is a neglected art form. In the twenty-first century writers will need to find new techniques to examine our complex times; the discrepancies between our obsession with nuclear war and trips to the moon set against world poverty, pollution and mass unemployment. We will not be able to continue writing to a convention that is out-worn and distancing and does not do justice to the times. It is significant that it is a film maker, Werner Herzog, a man who uses dream imagery, who comments:

We have not yet understood the gravest of our lack of images to interpret the modern world of atomic fission and pollution of land. ... There are so many embarrassed landscapes.

There are others who take a scientific, rational approach to the problem of memory. Carl Sagan, in *The Dragons of Eden*, describes the experiments of Penfield. Electrical stimulation of the cerebral cortex has produced sharp memories.

Hippocampus and frontal lobes are involved in human short-term memory. Short-term and long-term memory reside mostly in different parts of the brain. Sophisticated long-term memory is situated in the neo-cortex.

Thus the elderly forget what has been said recently but can recall minute details from childhood. Penfield thinks that the loss of ability to remember recent events arises from an inadequate blood supply to the hippocampus in old age, often due to arteriosclerosis. Sagan confirms that part of our brain remembers sounds and images, but not thoughts. He says:

When we avert our vision slightly, we bring into play the cells called rods, which are sensitive to feeble illumination and are able to perceive the faint star. Thinking sideways improves memory retrieval.

This then is an argument for glancing at things obliquely if we want to remember them; unlike Alice who stamped her foot.

Today drugs are being invented which, when injected into the brain, will cure forgetfulness. Perhaps Virginia Woolf's fantasy was not so far fetched after all. One day we may be able to "plug in" and take video trips into our past. Ideally there will be a marriage between art and science. Somewhere between art and science may become a technological reality.

The author is a novelist and lecturer in creative writing at the City Literary Institute in London.

BOOKS

The basis of capitalist evolution

by M. W. Flinn

The Wheels of Commerce: civilization and capitalism 15th-18th century, volume two by Fernand Braudel translated from the French by Stan Reynolds Collins, £17.50 ISBN 0 00 216132 X

Fernand Braudel established his worldwide reputation in 1949 with *Le Méditerranée et le Monde Méditerranéen à l'Époque de Philippe II*. By no means confined, as its title suggested, to the second half of the sixteenth century, nor to the immediate Mediterranean littoral, this brilliant and highly original study examined the economies and societies of the inland sea with great vision and imagination. Drawing on archives in half a dozen languages and on the insights of a wide range of the social sciences, Braudel illuminated the similarities and diversities, the rivalries and associations, the wealth and poverty of the societies both linked and separated by the Mediterranean of the sixteenth century.

By the time an English translation of this huge work in 1972 and 1973 considerably extended both his readership and his fame outside France, Braudel had already launched the first instalment of a new work comparable in scope but even vaster in coverage. In 1967 a first volume, entitled *Civilisation Matérielle et Capitalisme*, of a projected two-volume work appeared in Paris. The subsequent publishing history of this work has been extremely complicated.

The first volume was duly translated into English in 1973 under the title *Capitalism and Material Life*, still with the promise that it was the first of two volumes. Before the second volume appeared, however, the first was revised, with a new title - *Les Structures du Quotidien: le Possible et l'Impossible* - and a new translated title - *The Structures of Everyday Life*. Also before the complete work was published the Johns Hopkins University Press presented a slim volume of *Afterthoughts on Material Civilization and Capitalism*, originally given as a short series of lectures at that university and in effect a summary of the whole, still incompletely published work. A translator's note to this book, however, promised that the whole work, now running to three volumes instead of two, would be published in 1977-78. In fact, the completed three volumes were published in France only in 1979. The whole trilogy was called *Civilisation Matérielle, Économie et Capitalisme, XVI-XVIII Siècles*. Volume two was subtitled *Les Jeux de l'Échange*, and it is this volume that has now been translated into English under the title *The Wheels of Commerce*. Volume three, *Les Temps du Monde*, still awaits publication in English.

A huge canvas is evidently essential to Braudel's style of historical writing. His vast survey of economic history nominally takes in the whole world over the four hundred years of the fifteenth to eighteenth centuries, though in practice it is a little more restricted, India, China and the East Indies appearing from time to time, and, of course, earlier work had demonstrated Braudel's familiarity with the economics and societies of the Moslem world of the Near East and North Africa. Neither North nor Spanish America plays much part in the scheme, however, though there were many developments there in this period of relevance to the themes he discusses. The concentration as the themes of material civilization and the emergence of capitalism require and as might be expected from a European historian, is heavily on Europe, and in particular heavily on Mediterranean Europe. While some of his most interesting writing, he is intimately acquainted with the techniques of money-lending



An apothecary's shop: fresco in the castle of Issogne in Val d'Aosta, late fifteenth century, reproduced from *The Wheels of Commerce*.

receive at least their appropriate share of attention, Scandinavian developments are rarely reviewed. Chronologically the emphasis is in the two central centuries. Events in the eighteenth century, in particular, are noticed only in so far as they are relevant to the "pre-industrial" patterns which are the focus of Braudel's interest: the newer patterns of Britain's Industrial Revolution of this century are therefore inconsistent with the trilogy's thematic chronology.

Braudel's broad scheme is implied in the titles he has chosen for his three volumes. To describe it as an analytical model would perhaps be a little misleading, since his approach is massively factual. Rather it is a matrix within which he can set out the immense plethora of detailed information he has assembled. The first volume presented the basic character of pre-capitalist society, the base from which capitalism subsequently sprang. It provided an opportunity to survey the demography of the late medieval and early modern world, to enter the towns and homes of its inhabitants, to scrutinize the geography and economics of their clothing and food supplies, and to look at the technological foundations and limitations of the age.

An examination of the monetary systems that formed the lubricant of this rudimentary "material life" gave Braudel the link with his second volume. This, nevertheless, stands quite comfortably on its own and the reader interested in its particular themes may be spared the labour of working through the preceding volume first. The present survey of the fifteenth to eighteenth centuries, though in practice it is a little more restricted, India, China and the East Indies appearing from time to time, and, of course, earlier work had demonstrated Braudel's familiarity with the economics and societies of the Moslem world of the Near East and North Africa. Neither North nor Spanish America plays much part in the scheme, however, though there were many developments there in this period of relevance to the themes he discusses. The concentration as the themes of material civilization and the emergence of capitalism require and as might be expected from a European historian, is heavily on Europe, and in particular heavily on Mediterranean Europe. While some of his most interesting writing, he is intimately acquainted with the techniques of money-lending

and of transferring money over short and long distances. He spots unerringly where profits were to be made, where the risks were high, and where the incautious too easily lost fortunes. The commodity trades, the purely physical and geographical aspects of which were examined in the first volume, are here scrutinized for evidence of evolving financial and capitalist techniques of control and exploitation.

The central theme, however, is the emergence of capitalism from long-distance commerce. Braudel is well aware that "capitalism" is not to be confused with the mere accumulation of capital. Investment, of course, must take place even in the most primitive societies. "Capitalism", however, being no more than a set of practices allied, perhaps, to a particular attitude of mind, is less precisely identifiable. It is not automatically to be found in "the market economy". Indeed, Braudel is at great pains to differentiate the world of the great traders and money-lenders who played host to "capitalism" from that of the petty merchants and shopkeepers who merely invested capital in trade. While the words "capital" and "capitalist" may be traced back to the Middle Ages and the mid-seventeenth century respectively, "capitalism" is a more subtle and recent concept, a figment of historians' analyses. The word, indeed, though not the concept, was even unknown, according to Braudel, to Marx. It is susceptible, therefore, to some flexibility of definition, and many historians have adopted conflicting definitions to suit their particular interpretive requirements. But, in spite of the fact that "capitalism" is central to Braudel's argument, that a section of chapter three is devoted to a consideration of the concept, and that he claims in his foreword that he has tried in this book to construct "a grammar which will help us at least to pin down the meaning of certain key words, or of certain evident realities", Braudel never does more than skirt round a definition.

The origins of this rather nebulous "capitalism" must be sought, Braudel continues, exclusively in the counting houses of the great international merchants and banking houses of the sixteenth and succeeding centuries - "at the very summit of society". "Long distance trade", he concludes, "undoubtedly played a leading role in the genesis of merchant capitalism and was for a long time its backbone." And merchant capitalism, in its turn, was the progenitor, or at

least the forerunner, of industrial and agricultural capitalism. Undoubtedly Braudel's very particular specification of the exact location of his "capitalism" facilitates the formulation of this hypothesis.

Industrial capitalism, in consequence, is consigned to a diminished and derivative role. Indeed, in order to fit this area of investment into his general model Braudel tends to play down industrial investment that did not stem from commercial sources. Much of industrial capital in the early modern period did, of course, originate in commercial profits, but by no means all of it did. Landed income and ploughed-back industrial profits - the *auto-financement* of the French economic historians - were also important. Though part of one of his five chapters is devoted to industry, this is probably the weakest section of the book. This is so not merely because its scope has been restricted by the limitations of Braudel's geographical and chronological coverage - a study of the Swedish iron and copper industries, for example, and a sharper focus on some of the larger-scale industrial developments in British coalmining, ironmaking and shipbuilding of the late seventeenth and eighteenth centuries might have influenced his view of the sources of capital for large-scale industry - but primarily because of his almost ideological commitment to the commercial basis of "capitalist" evolution. The chapter on the nature of investment in agriculture and industry is filled, for example, with "Production" or "capitalism away from home", while the return to the theme of capitalism in trading developments in the fourth chapter is reassuringly headed "Capitalism on home ground". Braudel's lack of interest in industrial developments is reflected in the strange assertion early in the book to the effect that the history of production is "a baffling territory, difficult to locate and as yet inadequately charted". Perhaps this myopia explains why the section on industrial history is marked by more gaps, misconceptions and even absurdities than the fuller and more affectionate chapters on commerce and banking.

The conclusion to which this rather esoteric review of industrial capitalism inevitably leads is that "these ventures by capitalism outside its favoured sector - large-scale commerce - were rarely justified in themselves. It is undeniably the work of a master craftsman."

M. W. Flinn was until recently professor of economic history at the University of Edinburgh.

or trading profits made it advisable". This is a conclusion that can be supported only by a rather arbitrarily specified definition of "capitalism".

Braudel is quite willing to admit, however, that his argument is controversial, and, from the point of view of the reader's enjoyment, these analytical reservations detract very little from the magnitude of his achievement. His hypothesis, in any case, is founded on a truly staggering familiarity with the minutiae of the trading and banking world of the late medieval and early modern period. With its impressive wealth of documentation, the book is a masterpiece of historical technique. Unlike its companion volume it is comprehensively annotated, though the references are never easy to trace: they are placed at the end of the book, are never easy to relate to individual chapters, and lack page-head cross-references to the pages to which they relate. Braudel draws on many manuscript collections, principally in Paris, but also as far afield as Moscow and Rome. He makes extensive use of contemporary tracts and modern monographs. The book is lavishly illustrated; many of the illustrations materially reinforce the text, though others simply entertain. All are well reproduced and add considerably to the pleasure of the book. There are, additionally, many helpful maps, graphs and diagrams. The text is superbly translated by Stan Reynolds who surely captures authentically the unique flavour of Braudel's style.

Braudel's technique is largely to let the facts speak for themselves, a procedure more effective than such a bare statement might suggest since the information is tellingly marshalled with unobtrusive skill. Most of the text consists either, as in the case of the opening chapter, of descriptions of the principal commercial and financial institutions of the four-century period substantiated with innumerable examples; or, as in the succeeding three chapters, of examples of individual undertakings to illustrate the long process of the emergence, spread and diversification of capitalist techniques. Individual case-studies that do not fit into the general mould are cheerfully dismissed as "exceptions that prove the rule": of course they do not. The long presentations of ordered information are linked by occasional discursive forays into historiography, in the course of which the interpretations of some earlier historians of Braudel's themes are convincingly but civilly criticized and occasionally wholly rejected. The brief summaries that conclude the whole book as well as each of the five chapters are generally too inconclusive to be very helpful in pulling together the threads for readers dazzled by the labyrinthine of case-studies and vignettes that form the body of the extremely long chapters.

A reader approaching Braudel for the first time, however, will be struck as much by his style of writing as by his impressive historical technique. He was a founder member of the *Annales* school of French historians, and a prime characteristic of that school was, and still is, a colourful, dramatized, personal style of writing. The first person is frequently used, occasionally in ways that appear pompous, possibly because *Annales*-style French is less well suited to the English idiom when translated. Above all, however, the book is alive, Braudel's striking, enthusiastic personality shining vividly out of every page. Even if the challenge, willingly thrown out, to question some of its emphases is taken up, the book remains immensely readable, endlessly packed with detail that must be fresh to even the best-read historian, and artfully put together with a vigour that conceals the true art of the experienced writer. It is undeniably the work of a master craftsman.

BOOKS

Rights of man

The Left and Right: a conceptual analysis of the idea of socialist rights by Tom Campbell
Routledge & Kegan Paul, £5.95
ISBN 0 7100 9085 4

Many socialists are hostile to any suggestion that individuals have rights other than, or in addition to, those which some particular legal system gives them.

To think of individuals as the bearers of rights is to think of them in terms of what C. B. Macpherson labelled "possessive individualism". Rights are something we possess as we possess cars or houses or capital, and the language in which we habitually talk about rights has built into it the assumption that we naturally live in a competitive world. Rights are what we can insist on; we can waive them, but we are more likely to transfer them to someone else in exchange for some benefit to ourselves, when liberals of even a radical persuasion, such as Ronald Dworkin, write about them, they write about "trumps" ways in which the individual can hold off a hostile society. This suspicion is only confirmed by books like Nozick's *Anarchy, State and Utopia* which moves pretty swiftly from the claim that people have rights to defence of the gospel according to Herbert Spencer. The purpose of Tom Campbell's useful and timely book is to dispel their suspicions, not least by showing at some length that writers who have supposed that a concern for rights implies some version of capitalism have just been wrong about rights.

Campbell's case is simple in outline, complex in some of its details. He carries conviction at both levels — indeed, everywhere except in the gloss he offers on some historical writers. His first task is to give a plausible account of what rights are which won't simply beg the case. If we were to hold that only those rights which a legal system in the usual sense accorded us were rights at all, and that a socialist society would not have a legal system in the usual sense, it would follow pretty straightforwardly that under socialism nobody would have any rights. But Campbell is sceptical about getting Marxists to agree with Locke that we have rights in the state of nature in virtue of all being the workmanship of one omnipotent Maker who governs us by natural law. He thinks that any appeal to moral rights needs to be translated into a claim about the moral grounds on which someone ought to have a right recognized by some actual social rule.

Now, once we agree that what it is to have a right is to be explained in terms of there being a social rule giving us that right, socialist rights become discussable; what we have to ask is whether a socialist society would need social rules, and if so whether those rules would confer rights on people. The reluctance to say so which many socialists feel springs from three distinct sources. The first is the belief that law is essentially coercive, so that anything sufficiently like law to give people rights will be backed by coercion, and will have no place in a socialist society. To this Campbell replies, in a long and very intricate discussion of Kelsen and Hart, that one can envisage law — or a system of law-like social rules — operating in the absence of coercion. People need rules to assist cooperation, to provide a framework for socializing children into the norms of their society and to on, and calling people's attention to breaches of these rules would not amount to coercion. Of course, this assumes that people will not be persuaded in breaking the rules, but if it is persuasive, it is not so far-fetched that it would be rather than contingently. The second is the thought that rules are essentially restrictive, designed to stop people doing one thing or another, but for this the answer is that rules may be more

important in overcoming lack of knowledge than lack of good will — the rules of the road are an example, and in a socialist society we shall doubtless need a way of identifying people who are entitled to, say, decide what a factory shall produce. The third is the kind of individualism associated with the notion of rights in Hart's essay "Are there any natural rights?". To define rights as an individual's power to control the action and forbearances of others construes up an image of a society where we deal as adults in an essentially contractual fashion, but where children, the aged, the mentally handicapped, and all those who cannot exercise these powers of control strictly have no rights. Campbell proposes instead an "interest" or "concern" theory of rights; having rights just is being protected or assisted by a social rule in your most important concerns.

These concerns he then explains in terms of needs — quite rightly in terms of sticking to the Marxist tradition, where socialism is identified as the man who is rich in needs, and socialism is said to transcend the narrow horizon of bourgeois right at the point where it gives to each according to his needs. On Campbell's analysis, we may transcend the narrow horizon of bourgeois right, but we stay in the realm of socialist rights. He gives a very sympathetic account of why socialism should be tender to "human rights" — freedom of expression, association, political participation and the like — and does a neat job of explaining why a socialist can properly believe that we have both a right and a duty to work, to take part in public decision-making and the rest.

This brings me to two small quibbles. Once we explain the rights people ought to have under socialism in terms of the way they need the resources to do their duty to the rest of society, we may not have shown that socialists need not worry about rights, but we have surely shown that socialists will be thinking primarily about duties rather than rights; it may be that what explains socialist impatience with talk of rights is that under socialism, it is duty which takes priority. The second quibble is that once we take the view that duties come first, we can do justice to a historical figure like Locke who too easily gets dismissed as a capitalist rights theorist. It is because we need the resources to do our duty in the station to which God called us, liberty and property. To the extent that capitalism rests on the thought that our rights are simply natural possessions, capitalism is simply at odds with natural rights.

Alan Ryan

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Tolerating intolerance

Free Speech: a philosophical enquiry by Frederick Schauer
Cambridge University Press, £20.00 and £6.50
ISBN 0 521 24340 8 and 28617 4

If we believe in free speech, should teachers be forbidden to wear CND symbols? Should National Front or counter-demonstrations be banned? And should the right to peaceful picketing be protected? These may not be matters which seem immediately to be covered by the principle of freedom of speech, but it is an essential aspect of Frederick Schauer's treatment of the subject that "speech" is interpreted as comprising extensively on legal rules and examples, adding a valuable extra dimension to this essentially philosophical contribution to the contemporary debate on civil liberties. A topics are given an airing: censorship and pornography, laws against defamation and intrusion of privacy, the suppression of freedom of information, national security, picketing demonstrations and political marches. The perennial paradox of tolerating intolerance is explored.



Joined freedom fighters, a photograph from *Unity in Action: a photographic history of the African National Congress South Africa 1912-1982*, published by the African National Congress at £5.00.

tion — that intolerance itself cannot be tolerated — is interestingly and unusually resolved by Schauer in favour of permitting free speech to "fascists", "racists" and "totalitarians" on the ground that no one — and certainly no government institution — can be trusted with the task of categorizing these groups. And even if it is accepted that some are more competent than others at the task, there is the unresolvable problem of how the majority can be expected to select the more competent. It is scepticism on this, and a consequent belief in the overriding priority of freedom of speech, that accounts for the different and freer legal position on publication and defamation in the United States as compared with Britain.

Another paradox treated by Schauer is the apparently anti-democratic nature of the principle of free speech if it is held as a restraint on majority power — a paradox if the principle is defended by an appeal to democracy. Schauer's solution in this case is to replace the ideal of democracy as majority-power with that of democracy as equal participation. The second interpretation, of course, requires both full information and free communication. Acceptance of the principle in a democracy can therefore avoid what Horace described as "the frenzy of the citizens bidding what is wrong" what Mill described as the "tyranny of the majority" and what Aristotle recognized as a corrupt form of popular power — corrupt because unfettered by principles and constitutional guarantees.

As opposed to theorists like Rawls who have attempted to subsume all political principles under some broad integrating categorization, Schauer is an unabashed pluralist. That is to say, he recognizes a plurality of independent principles and defends free speech as one such principle. The argument from truth — that in an atmosphere of free discussion truth will emerge — is given substantial consideration, but Schauer points out that in the end this and the argument from democracy are means-end justifications for freedom of speech. He argues, on the contrary, that free speech as an individual good, for free is sympathetic to the view that free communication is necessary for intellectual self-development, but links the right to it to more general principles of liberalism and individualism, and in particular to a belief in the fallibility of governments which generates a need to set limits to state control. At the same time, though, the utilitarian argument that speech may substitute for violence — that "jaw-jaw is better than war-war" — is given some weight.

Speech can be used to exhort, cajole, inform, to generate political movements, to create poetry and literature, to enlarge knowledge through scientific inquiry, or to attempt to express inexpressible longings, reactions, sensations and emotions. It is the unique and arguably the most valuable asset of humans, setting them aside from the rest of nature and giving them their enormous potential for good or evil. It is also the most individual of assets, since the sense in which nations, companies, organizations or corporate bodies can speak, or convince or communicate is only derivative. These two facts then — the distinctiveness of speech as a natural phenomenon and its potentiality indi-

vidual character — make the question of freedom of speech uniquely important politically and practically. Schauer's clear and elegant study is a major contribution to discussion of this issue. It combines conceptual analysis with normative argument — a worthwhile achievement, for if progress is to be made either in philosophy or in the world of affairs, dispassionate treatment must sometimes give place to passionate commitment. There could be no better place for this process to start than in the defence of a fundamental freedom which happens also to be the first condition of philosophy itself, freedom of speech.

Brenda Cohen

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Legal realities

Prosecution in the Public Interest by Susan R. Moody and Jacqueline Tombs
Scottish Academic Press, £12.00
ISBN 0 7073 0321 4
The Judge, Discretion, and the Criminal Trial by Rosemary Pattenden
Clarendon Press: Oxford University Press, £20.00
ISBN 0 19 825337 7

To the outsider, and even to many lawyers, the law is thought to represent a fixed code, the evolution of which has been inevitable and the implementation of which is unproblematic externalized, divorced from movements within society, reified. The successful selling of this image over the years has stifled examination of the nature of the trial system and of the structural allocation of power within it. These two books each of which represents a different tradition of legal inquiry and is concerned to establish not the assumed fixed character of legal rules but the amount of discretion accorded to officials within the legal system, provide small but revealing insights into legal reality.

The book by Susan Moody and Jacqueline Tombs, an analysis of decision-making by Scottish prosecutors, is of particular interest because of proposed changes to the English law of criminal sentencing. Discretions relating to the rejection or alteration of pleas, the exclusion of prejudicial evidence, the questioning of witnesses, the discharge of jurors, and the summing up of evidence are just a few of the matters meticulously catalogued. Given the enormous discretions available, tantalizing questions (with which Moody and Tombs but not Pattenden are concerned) are raised about the unknown principles which guide judges, the ideological context in which judgments are made, and the effects of all this on the dynamics of and power relationships within the trial system.

In principle, the prosecutor-fiscal is responsible for the investigation of and the prosecution of all criminal offences committed in his district. He decides whether or not to prosecute, on what charges, by which form of procedure, and in which criminal court. Subject to limited constraints imposed by criminal law and procedure, he has considerable autonomy in carrying out these responsibilities. The police are in law subordinate to him.

practice reveals a very different picture. Fiscals, in making the key decisions about whether to prosecute, choice of charge and choice of venue, are largely dependent for the information upon which they rest their decisions upon the agency which reports to them. In general this means that the police, as reporters, have a crucial influence. Police reports tend to be stereotyped, directed towards minimizing uncertainty and maximizing the strength of the case for the prosecution. This, in combination with the fact that fiscals generally hold the police in high regard and are pressured by case numbers towards bureaucratization, produces routinized, conveyor-belt decision-making. In the event, exercise of the discretion not to proceed is invoked comparatively rarely: fiscals prosecute. The selection of the appropriate forum for trial is, similarly, concluded within a particular structural and ideological context, and fiscals are heavily influenced by their own evaluation of what is a just sentence. On the other hand, it emerges that trial-avoidance mechanisms (principally charge-bargaining) are widespread, triggered by defence overtures, based upon "trust" and founded in shared understandings and mutual interests with defence lawyers: fiscals are prepared to exercise considerable discretion in bypassing the trial system by negotiating over pleas.

In the rhetoric of the Scottish criminal justice system and in the eyes of many reformers elsewhere, the fiscal is an autonomous, independent guardian of the public interest standing between the investigation of crime and the disposition of charges within a court setting. This book strongly suggests on the contrary that fiscals do not exercise any meaningful control on the investigation of crime but are instead wholly reliant upon the police construction of what took place, that fiscals only exceptionally decide not to proceed and are generally prosecution-minded, and that central decisions are routine and not the product of legal expertise and independent judgment.

Any move in England towards a national prosecuting system must take into account the findings of this very interesting and readable book. In particular, the assumption that the creation of a new body of public prosecutors will produce a different kind of decision-making from that which obtains under the present system in which there is a solicitor-client relationship with the police, must be abandoned, and attention must be switched instead to the power or effectively to control the destiny of cases by those who have the responsibility for collecting the information at the investigation stage. Rosemary Pattenden's objective is much more limited but the implications of her book are equally important. Her main concern, in an examination of English and Australian case-law, is to set out and describe the more important discretions which may be exercised by a judge in the course of a criminal trial and the known principles by which they should be exercised.

Though one might quarrel with some of the decisions Pattenden makes (as, for example, the rather arbitrary exclusion of any analysis of discretion in sentencing), the text is comprehensive and workmanlike; it should prove a useful source of reference (in thesis style; there are some 75 pages of footnotes) in criminal procedure and evidence courses. What emerges most clearly, is the extent of discretion given to, or rather, taken by, judges in the English criminal setting. Discretions relating to the rejection or alteration of pleas, the exclusion of prejudicial evidence, the questioning of witnesses, the discharge of jurors, and the summing up of evidence are just a few of the matters meticulously catalogued. Given the enormous discretions available, tantalizing questions (with which Moody and Tombs but not Pattenden are concerned) are raised about the unknown principles which guide judges, the ideological context in which judgments are made, and the effects of all this on the dynamics of and power relationships within the trial system.

Michael McConville

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BOOKS

Meaning to say; saying to mean

Understanding Language: towards a post-Chomskyan linguistics by Terence Moore and Christine Carling
Macmillan, £17.50 and £5.95
ISBN 0 333 27188 2 and 33108 7

Moore and Carling's *Understanding Language* (surely the third or fourth book to come out under the same title in the past fifteen years) is a critique of the Chomskyan "paradigm" which dominated linguistics for most of that period.

Supporters of this paradigm have described Chomsky as the initiator of a "revolutionary" break with his Descriptivist American predecessors. This is wrong, according to Moore and Carling: Chomsky retained the Descriptivists' fundamental axiom that language is fruitfully analysed in terms of the grammatical distribution of forms, ignoring their meanings. But in reality meaning cannot be kept out. The Descriptivists' practice belied their principles. Chomsky tried to take this principle more seriously, and was forced as a result to "idealize to irrelevance". We can now see that meaning must be central in any worthwhile linguistics; and that implies that we must abandon Chomsky's rigorously axiomatized, hypothetico-deductive style since meaning is too shifting and personal to permit such an approach. Moore and Carling conclude with some admittedly tentative speculations about what a post-Chomskyan linguistics will look like.

This is a work we have been hearing frequently in recent years. It is a popular-story: since scientific linguistics began to be widely taught to people with literary interests, its apparent determination to ignore all the most humane aspects of language has caused linguistics to inherit the reputation of economics as the "dis-mal science". No doubt the subject was oversold. But to say that a discipline deals with issues that many people find uninspiring is not to say that the discipline is invalid in its own terms. Moore and Carling's

account of the recent history of linguistics does not persuade me.

On their last point, certainly, I agree with them: as Colin McCabe puts it, at the semantic level there is no systematic Saussurean *langue* underlying the shifting flux of *parole*. Outside the parochial world of linguistics, the inapplicability of rigorous scientific techniques to meaning in natural language has been something of a cliché for decades if not centuries.

But this might be taken to lend weight to the principle that grammatical analysis should be purged of reference to meaning, so as to yield a "double" subject. Moore and Carling suggest that the Chomskyan example demonstrates that this is impossible. I would reply that the Chomskians have scarcely made the attempt.

True, Chomsky often says that he believes in studying grammar apart from meaning. His practice has consistently been otherwise. One of the classic arguments for transformational grammar was the need to formalize the intuitively-perceived relationship between active and passive sentences — ie the semantic relationship of paraphrase. From the first, Chomsky has been interested not in whether his grammars generate the correct class of word-sequences, which is an objective, grammatical issue, but in their "strong" generative capacity — in whether they assign structural analyses to sentences which coincide with speakers' intuitions, which are surely based on meaning. If Chomskyan linguistics suggests that meaning cannot be kept out, it is because the Chomskians have unconsciously chosen to bring it in while denying that they are doing so.

Moore and Carling would reply that the Chomskians could not help it, how we know, the status of what we know; Piaget was always first and foremost an epistemologist, albeit a practically and experimentally minded epistemologist. Throughout his long working life Piaget wrote 1200 words a day. The body of his work — experimental papers, experimental monographs, and theoretical texts — is thus vast. It is, however, dwarfed by the ever increasing array of books about Piaget, particularly about Piaget the child psychologist. Modgil and Modgil, already guilty of nine volumes on Piaget, here present a volume considering a slightly broader perspective, including as it does chapters on philosophy and special education; the Bryant volume is more exclusively concerned with Piaget the developmental psychologist.

which for the first time asks whether such constructions actually occur in real life and finds that they do, frequently.

Moore and Carling say many perceptive things about the unsatisfactory current state of linguistics. But the trouble with the method they ascribe to Chomsky is the same as the trouble with Christianity: it hasn't been tried.

Geoffrey Sampson

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Piaget's impetus

Piaget: issues and experiments edited by Peter Bryant
British Psychological Society, £5.95
ISBN 0 901715 16 6
Jean Piaget: consensus and controversy edited by Sohan Modgil and Celis Modgil
Holt, Rinehart & Winston, £17.95
ISBN 0 03 910352 8

Few would deny, I think, that Piaget was one of the great minds of the twentieth century. His interests were wide, ranging from variation in plants, through variation in snails, to the child's development of knowledge, the historical development of knowledge, and the application of his ideas on these subjects to such practical problems as education. Behind it all, as he frequently protested, was a restless urge to find out about knowing, how we know, the status of what we know; Piaget was always first and foremost an epistemologist, albeit a practically and experimentally minded epistemologist.

Through his long working life Piaget wrote 1200 words a day. The body of his work — experimental papers, experimental monographs, and theoretical texts — is thus vast. It is, however, dwarfed by the ever increasing array of books about Piaget, particularly about Piaget the child psychologist. Modgil and Modgil, already guilty of nine volumes on Piaget, here present a volume considering a slightly broader perspective, including as it does chapters on philosophy and special education; the Bryant volume is more exclusively concerned with Piaget the developmental psychologist.

The Piaget industry, it seems, is beginning to verge on the Freud industry. A great many PhDs are acquired by doing something vaguely "Piagetian". A great many university lecturers make their living by expounding Piaget. Positions are taken; one is pro or anti-Piaget. This vast industry — and it is vast as any volume of the *Social Sciences Citation Index* will show — is largely a betrayal of the man himself and a traduction of what psychology in 1983 ought to be about.

On the betrayal of the man I would say that Piaget's most outstanding characteristic was his attempt to make progress. The last talk he gave was an attempt to resolve a theoretical problem he raised in the 1940s: a problem raised by himself among others in the 1970s, the problem of why young children sometimes seem to do better than older children on the same task. The novel attempt at resolution, from a man in his eighties, was original and is plausible. He was also not bound to his own experimental results. In my personal experience two of his own PhD students produced results showing that in both cases his own basic experiments did not have invariant outcomes and that the theoretical consequence of both would have to be rethought. In both cases he was delighted: in one case he said he was too old to do the rethinking; in the other — ten years later — he did the rethinking. Why then is it that the Piaget industry concentrates on bits of Piaget's work, mostly work done in the 1930s? Why are the advances ignored? Why are the changes ignored?

There are answers to these questions, the first of which should be trivial, but is not. Piaget wrote in French. A great deal of his work is still untranslated. A great deal of that translated is badly translated. (My favourite instance of the latter is the translation that should have read "one of my former experiments" which came out as "one of my ancient experiences".) Non-French readers are thus at a disadvantage.

A more significant answer has to do with the betrayal of psychology as it is today. When Piaget's results, every one of them, were first published, they upset *someone*. The initial response to these was to show that the experiments were wrong. In his first major book he argued that children were in a significant way more or differently egocentric from adults. One critic answered this by claiming that children did not use the word "I" more than adults. "So what", can only be anyone's reply to such misinterpretation; whether wil-

ful or not, the misinterpretation still persists (viz. the article by Margaret Boden in the Bryant volume).

The other criticism that emerged was that at some ages under some circumstances children could do better than Piaget said they could. While Donaldson, in the Bryant volume and indeed Bryant himself, are not as extreme in their interpretations of their work as leader writers in *The Daily Telegraph* have been, such results are seen as significant. Why? In the 1940s Piaget produced such results himself, and did not attempt to conceal them. In fact, all such results can fit within a theory of development.

Piaget's theory was, beyond all else, developmental, as Bryant emphasizes. Change is a consequence of prior change and the situation. The emphasis on development is notably missing from most of the papers in these two volumes. In more than one case a two year segment of development, well described in the original Piaget, is reduced to a one hour or one half-hour of testing of a segment of a sequence, with the different results seen as somehow reflecting on a theory that, however inadequate, was intended to cover change from conception to death.

It will be clear from what I have said thus far that I am not enthusiastic about either of these volumes, not indeed about the genus from which they spring. Those who are unfamiliar with Piaget would do better to begin with either his classic *The Psychology of Intelligence* or the book with Bärbel Inhelder, *The Psychology of the Child*. Those who are familiar with Piaget will find several thought-provoking articles in these volumes. They might read them and think about how best to continue the massive impetus to the understanding of development that Piaget gave us.

T. G. R. Bower

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A second edition of T. G. R. Bower's *Development in Infancy* has been published by Freeman at £14.80 and £6.90, a major addition to the book being a chapter on social development.

A collection of essays by leading philosophers on the importance of Freudian theory for the understanding of the mind has been edited by Richard Wollheim and James Hopkins and published as *Philosophical Essays on Freud* by Cambridge University Press at £25 and £7.95.

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BOOKS

Partisan polemic

Partial Progress: the politics of science and technology
by David Albury and Joseph Schwartz
Philo Press, £4.95
ISBN 0 86104 385 5

This book has a clear polemical purpose: to attack "the myth of a classless, unbiased, inherently progressive science and technology". To the authors, it is "immediately clear that the wider interests of the mass of the people have been systematically ignored in favour of profit, power and privilege for the few". The text embarks on a detailed analysis to demonstrate how class interests get expressed across the spectrum of science and technology, "from the physics of elementary particles, to occupational health and safety research". Take, for example, Davy's miner's safety lamp. Contrary to popular belief, far from reducing accidents, there was an increase in explosions and fatalities after the introduction of the lamp. The explanation is not hard to find. After veins of coal were mined, the pillars of coal left to hold up the roof were compressed, releasing large amounts of an explosive mixture of air and methane. The great attraction of the lamp for the colliery owners was that it allowed them to reopen extensive and valuable workings. But neither the miners nor mine inspectors were convinced. They argued that the lamp was by no means reliable, and that the real problem was lack of adequate ventilation. In short, Davy accepted the mine owners' brief to build a lamp that would work in the methane-rich atmosphere. He did not attempt to tackle the fundamental problem of safety in mines.

The most overwhelming evidence of the way in which science and technology has been and is harnessed to the service of powerful interests in society is the analysis of research and development (R&D). In Britain in 1980, 55.6 per cent of the total government R&D budget of £2,690 million was spent on defence. Of the remainder, very large amounts were allocated for economically-orientated research, such as nuclear energy and aerospace. Only 15 per cent went to the five research councils. And even here, there was a heavy emphasis on applied research. The argument in a nutshell is that class interests direct both the broad formulation of research problems and the development of new machines. "The labour of scientists and inventors is channelled by the market for inventions, by the available jobs, and by education and training, to work on the problems of concern as defined by the dominant class in society".

The case is further reinforced by evidence to demonstrate that science and technology are also harnessed by capital to strategies aimed at the control of labour, by deskilling, the displacement of workers, and the development of process technologies which strengthen managerial control over workers. A chapter on micro-electronics cites numerous examples: in printing, car manufacture and communications. Numerical controlled automatic techniques are given as examples both of deskilling and of increased managerial control. The authors quote Lord Spens speaking in the House of Lords debate:

Silicon chips do not belong to unions. They do not go on strike. They do not ask for more and more pay. They do not need holidays, nor heated offices, nor tea-breaks. They are very reliable and do not make mistakes. They need very little space to function. They are cheap. They use very little energy and they are here now waiting to be brought into use.

Science also functions as part of the dominant ideology, ideologies, as defined by the authors, are not necessarily true or false. Rather they are partial views in the sense that they express the view of only one group or class. A number of examples are explored: IQ research, sex

role and gender research, sociobiology, occupational health research. The arguments here are less clear. Some research is criticized as bad science. An example is "the unsupported hypothesis that the supposed differences between boys and girls are due to hormonal differences". But the main thrust of the critique is rather that the researchers themselves are embedded in ideologies and social practices of class and inequality, and their findings reinforce such ideologies and practices.

Any simple view that science and technology are in some sense neutral and outside politics cannot survive such an analysis. Science and technology are human activities, harnessed to serve ends, values and interests. The "disinterested" pursuit of knowledge and invention characterizes only a small and diminishing proportion of scientists. The case looks overwhelming. Despite this, however, will the book succeed in its purpose in challenging the myth of an "unbiased, inherently progressive science and technology"?

The difficulty with any polemical text is that it is itself partial and biased. Examples are deliberately selected to prove the case. Despite its scholarly style (there are 133 footnotes to chapter one) there is no attempt at even-handed weighing of all the evidence. To pick a few examples from the corpus of psychological research which exemplify underlying racist or sexist ideologies is not sufficient to sustain such sweeping condemnation of science.

In short, the book will provide ammunition for the converted. It will certainly help those in trade unions, women's groups and black organizations for whom it was presumably especially intended. But it could well fail to carry much conviction with a wider audience. This is a pity: the case deserves a more convincing statement. I would hesitate to recommend it as my first-year course for engineers in technology and society precisely for this reason. But the text should find a place in courses on the social relations of science where it can itself form the subject of more critical analysis.

Stephen Cotgrove

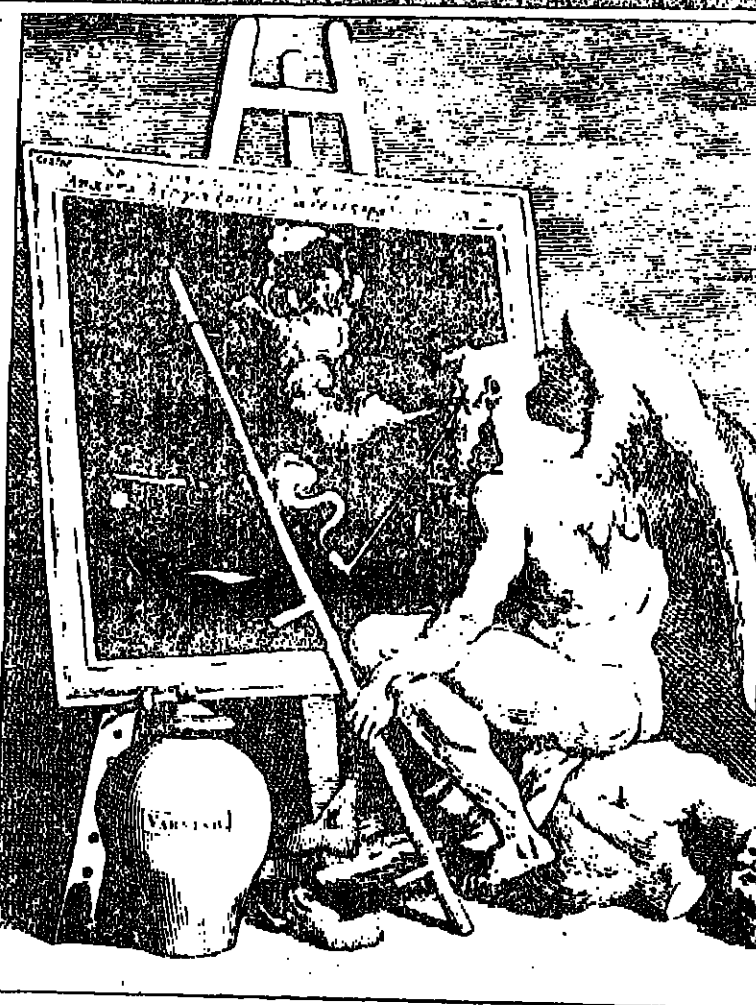
Stephen Cotgrove is professor of sociology at the University of Bath.

Forgotten founders

Science in Context: readings in the sociology of science
edited by Barry Barnes and David Edge
Open University Press, £6.95
ISBN 0 335 10054 6

If it is true, as A. N. Whitehead remarked, that "a science which hesitates to forget its founders is lost", then judging by this book the sociology of science is very much alive. Just 10 years ago Barry Barnes published a collection of readings, *Sociology of Science* (Penguin) but only two of the 22 contributors to that earlier volume remain. Gone are Ben-David, Habermas, Kuhn, and Merton, among others. Making their appearance are representatives of the younger generation of sociologists, many of them British (such as Harry Collins, Steve Woolgar, and Brian Wynne) for whom the processes by which scientific knowledge is generated and established have become central concerns.

A second criterion also suggests the vitality of the field. The sociology of science today is characterized by a fruitful clash of alternative orientations and interests. There is a theoretical pluralism born in part of the rise of alternatives to functionalist sociology, drawing upon interactionist and phenomenological perspectives. The uncertain boundaries of the field also contribute to its conceptual diversity, for sociologists of science have to some extent also been influenced by problems of and for science policy. Thus, it is difficult to make any sharp demarcation between studies of "the science/technology relationship as an interaction between what are at least partially distinct forms of culture" (included here) and the work of, say,



'Time Smoking a Picture', by William Hogarth (1761), a satire on the idea that old things are more valuable than new ones. Hogarth likens time to an unreliable picture dealer who blows smoke on the landscape and drives his eye through it. Taken from *The Enigma of Time*, an anthology of articles on this elusive theme selected by P. T. Landsberg, mostly from the point of view of physical science although the wider philosophical implications are mentioned. Published by Adam Hilger at £13.95.

Schmookler and Rosenberg on the economics of technological change. Barnes and Edge are concerned to demonstrate the distinctiveness of technological culture, and that it is this - rather than science - upon which innovation largely draws. An innovation then becomes a "development of the existing technological culture" brought about by "the pull of external demand" or "the interdependence of different aspects of technology". Precisely these questions are at issue in much economic writing. On the other hand, the sociology of science has perhaps more consciously drawn upon recent work in history and philosophy of

science. An important consequence of the decline of the functionalist approach which underpinned the pioneering work of Robert Merton and his collaborators has been the rise of a view of science as "conventional", "negotiated". Scientific knowledge comes to be denied the privileged status accorded it by most philosophers and (if only tacitly) by most sociologists. Scientific theories and scientific practices are then aspects of the culture of a particular community, and open to be studied by similar methods. How is this culture transmitted and how is it transformed? What on the one view were the norms of science, on the new view are cultural resources to be used in negotiation. From this view have come a number of interesting studies designed to show "the conventional character of scientific knowledge" and to explore the "processes of negotiation". The editors have made a good selection from this literature.

However, they have attempted to do more. They have also tried to show the relevance of this perspective (which is their own) to a wider range of issues. The interactions of the scientific culture with the broader culture is the heading under which discussion of science/technology is presented. Here technology is presented as something culturally distinctive from science, something other than the "applied science" which some writers make of it. Such a view fits not only with what economists have to say but also with the historical and anthropological discussions of technology in other times and in other cultures. The ways in which technological change does, sometimes, draw upon science then become a matter of study.

Equally complex, and somewhat contrary to the popular view, is "scientific expertise". When scientists advise upon some controversial and difficult issue of a technical kind, what is the status of the advice which they give? There have been a number of studies of the role of scientific expertise in controversies surrounding nuclear power, the use of DDT, the introduction of new drugs, and various others. They mostly cast doubt on the possibility of an objective, purely technical expert view. Of course, scientists can still be experts, and society will continue to regard them as such, but sociological work shows that their expertise is never the dispassionate appraisal that we tend to assume.

The selection presents a particular perspective on the sociology of science. This apparent one-sidedness is mitigated, however, by the lucidity with which the case is presented in linking editorial material, and by the fact that the perspective happens to be the source of much of the most interesting work now being done in the field. The book provides a challenging introduction to the sociology of science and deserves to be widely used.

Stuart Blume

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Fortuitous parallels

Psychological Life: from science to metaphor
by Robert D. Romanyshyn
Open University Press, £11.95
ISBN 0 335 10108 9

Romanyshyn tells us that he has two aims. The first is to provide "a historical reflection which does the psychological work of re-membering how we have become what we are... not unlike the work of psycho-analysis performed upon the second 'I' to show how the psychological life is a reality between the material and the mental, that is a metaphorical reality". Disentangling the metaphors he finds in the development of science is to provide for him a way of understanding the phenomenology of the present.

There are interesting and sometimes moving things here, but it is not at all clear that psychoanalysis the past is an intelligible activity. His book belongs within that tradition that looks back to a paradise of associated sensibility lost to us by the rise of science (and perhaps of democracy too) during the sixteenth and seventeenth centuries when we became, not just ghosts in machines, but alienated from the imagery of experience (which is largely what he means by "psychological life") by our guilty knowledge of scientific reality.

But nostalgia is a poor guide to history. The late seventeenth century certainly did not look back in this way. Bishop Sprat whose *History of the Royal Society*, Romanyshyn quotes, wished there "to return back to the native purity and shortness when men delivered so many things in an equal number of words". But for Romanyshyn "... the time may be propitious for a recovery of psychological life as metaphorical reality". If the motto of the Royal Society was nullius in verba, Romanyshyn's would be to take all varieties of idiom and cliché with the same seriousness that is due the poetic imagery of the early seventeenth century.

We are told in a foreword by J. H. van den Berg, who seems to have been his mentor, that Romanyshyn's book gives "Kuhn's paradigm... the significance of reality", and one can only hope that the author would not welcome such an encomium, just as one would hope he would reject the astonishing observation that he mentioned Harvey "not one physician... beat", but in fact Romanyshyn is both philosophically and historically naive.

He sides rightly with those for whom metaphor cannot be simply reduced to a rhetorical device for expressing those comparisons that might otherwise have been expressed literally, and he is right in seeing this as an important component of thought. But his insistence on the "reality" of what he calls "psychological life" (where for him such language has a central role) comes to little more than the observation that we really do make use of metaphorical idioms: which even to phenomenologists would constitute a starting point rather than a conclusion.

Similarly, the historians' questions - who thought in certain ways when and whether apparent parallels are merely fortuitous - do not seem to constrain his curiosity. What we have instead are the sort of observations that too often disgrace a certain kind of television programme; and we are reminded that *De Revolutionibus* and Vesalius' anatomical studies were published in the same year, so (but the force of the "so" is left unclear) since Copernicus can "dispense with the living human body as a ground for knowledge... it is to be found on Vesalius' dissecting table... Vesalius' body could not appear on a stationary earth". And we are told that "Charles I... is perhaps the first... victim... of the new false equality which appears through the pumping heart" and that "because systole and not diastole is [for Harvey] the basic motion of the heart... the human heart becomes empty in the seventeenth century. Human existence becomes empty and lonely". It is not clear on what grounds the reader is supposed to believe or disbelieve all this.

Of course, analogies between scientific change and changes in thought elsewhere are worth exploring. But, as Christopher Hill put it in his own essay on Harvey's "dethroning of the 'sovereign' such analogies 'make things seem more reasonable, less shocking, in a world still dominated by analogy'. Neither philosophical questions about what it might be for something to be reasonable to think - nor the parallel historical constraints (that is, reasonable to whom, and why) affect this writer. And this is a pity not just because he may undoubtedly interesting book may impress unwary readers of an Open University publication, but more importantly because it may tend to give the important inquiry he could have engaged in an undeserved bad name.

Andrew Harrison

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BOOKS

ENGLISH

Against nature

The 'Scientific Movement' and Victorian Literature
by Tess Cosslett
Harvester Press, £19.50
ISBN 0 7108 0302 8
Romantic and Modern Literature: essays and ideas of culture 1750-1900
by John Lucas
Harvester Press, £18.95
ISBN 0 7108 0405 9

With rare enough whimsy T. H. Huxley once pictured Victorian science as a Cinderella neglected and persecuted by her ugly sisters, Theology and Philosophy. In her garret Cinderella-Science dreams her dreams of truth "out of the ken of the pair of shrews who are quarrelling downstairs", for it is only she who "sees the order which pervades the seeming disorder of the world". In her often illuminating study Tess Cosslett sets out to challenge the commonly held belief that Victorian writers remained under the sway of the ugly sisters rather than under that of the true secular princess, Science.

As Dr Cosslett's brief but informative first chapter demonstrates, the visions of the Romantic poets seemed to some Victorian thinkers to have been confirmed by scientific investigation; it was even asserted that the imagination of the modern scientist precisely paralleled that of the poet. Both shaped an organic unity from what the imagination seized as truth, or, as Frederic Harrison concluded in a review of G. H. Lewes, "our sciences are verified poems".

Having succinctly suggested the force of such parallels between art and science, Dr Cosslett turns to specific examples. Tennyson's *In Memoriam*, *Middlemarch*, poems by Meredith and early novels by Hardy. It is an interesting if highly selective range of writers. There is much that is striking in the comments on Tennyson's grasp of pre-Darwinian evolutionary thought, though it could be argued that the chapter underplays Tennyson's doubts concerning both a scientific thesis and a theological assertion. Dr Cosslett is original too in her approach to George Eliot, though an analysis of the intellectual context of *Daniel Deronda* might have provided a conditioning balance to what is claimed for *Middlemarch*. The comments on often overlooked poems by Meredith serve to place him centrally in a line of informed observers of nature, though if Meredith found the order he perceived artistically useful such assurance seems to have unsettled Hardy. Dr Cosslett separates the gloom of Hardy's personal vision from the evolutionary optimism of his scientific understanding, and she usefully relates aspects of the early stories to images suggested by his agnostic mentor, Leslie Stephen.

Dr Cosslett's study is a valuable complement to the rich variety of the collection of essays edited in 1977 by Knoepfhammer and Tennyson under the title *Nature and the Victorian Imagination*. Significantly, though, the most commonly cited writer in that anthology, Ruskin, is notable for his absence from this new study. So are those active naturalists and priests: Kingsley and Hopkins. As a consequence a reader may be left with the impression that Dr Cosslett's focus is too narrow and exclusive.

Kingsley has his assured, though sometimes marginal, place in John Lucas's new collection of "essays and ideas of culture 1750-1900". The writer who emerges centrally from the volume is, however, Dickens - for Lucas "the greatest of all English novelists". Lucas's awareness of a culture which flourishes beyond strictly academic confines is proclaimed in the note struck in his sixth chapter to the effect that "nearly all the greatest writers of the past 200 years - Blake, Dickens, Hardy, Lawrence, Yeats" managed to avoid

"the kind of [educational] experiences we expect our writers and intellectuals to enjoy". As the vigorous and challenging introduction asserts, there is a real distinction now to be drawn between traditional educational experience, however eccentric or casual, and the outright failure of education. The 1960s, Lucas suggests, "was the decade that did a great deal to raise ignorance to the level of sanctity", the time when "a tradition which had been taken for granted, a respect for knowledge, a concern over facts, and a reverence for memory... was abandoned".

The volume, taken as a whole, serves as a reassertion of these traditional educational values. The essays range broadly, scrupulously, and in a scholarly, but always readable, manner over a wide range of literature. They are refreshingly discriminating, argumentative and stimulating, qualities which are especially evident in the two essays with which the volume opens and in the interesting study of Forster and Wagner with which it closes. It is, nevertheless, a pity that the opportunity was not taken to date individual essays or to suggest the contexts which gave rise to them. The chapter entitled "The Victorian and the World", for example, is rather mysterious in its intentions: it celebrates the architectural and sanitary triumphs of the unsung Victorian engineers of the Midlands but it never glances at the great London pumping-stations, nor, despite its broad title, does it extend its

theme outwards to the popular taste for sea-bathing. Something might also have been said of the extensive use in Victorian literature of pre and post-Darwinian imagery derived from seas and rivers (Arnold's river of life, or George Eliot's Floss, for example). Nor does Lucas pause to reflect on the fact that the water used for illustration is traditionally slightly saline. Despite his clear concern for facts, it is a pity that the sweep of the first essay is impeded in its opening paragraph by a loose reference to Albert Edward, Prince of Wales, simply as "Prince Albert", and by a witty swipe at a Kingsley who was very seriously concerned both by the conditions which gave rise to urban cholera and by the bad state of his own drains at Eversley Rectory. One might also have hoped that the discussions of Dickens, lively as they are, had been revised in the light of the new *Pilgrim* volumes of the letters.

I must also admit to being puzzled by the statement that "when the Houses of Parliament burnt down in 1833, Dickens was among the cheering onlookers". Parliament burnt in 1834 and I have found no source which suggests that Dickens was actually present, whether cheering or not.

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Words, words, words

The Literary Language of Shakespeare
by S. S. Hussey
Longman, £4.95
ISBN 0 582 49228 9
Shakespeare and the Rhetoricians
by Mariou Trousdale
Scolar Press, £15.00
ISBN 0 85967 654 4

"Othello kills Desdemona because he lacks what was obviously felt to be an essential knowledge of language skills." This rather oblique view of the tragedy is offered by Mariou Trousdale. What she means is that Othello is deceived by Iago because he fails to recognize "a Renaissance fact of language: that it is insubstantial and manipulative; that it does not represent reality but presents a representation of reality". "Viewed as a tradition of rhetoric," writes Dr Trousdale, "Shakespeare by means of Iago shows how evil rhetorical method is, but how effective it is in the most unpromising situations such rhetorical method can be". It is hard to resist the reaction that this is how a knowledge of the rhetorical tradition illuminates the play, then there are better ways of understanding Shakespeare's art.

Yet Stanley Hussey is surely right to argue that a familiarity with sixteenth-century attitudes to language and literary composition, including the formal art of rhetoric, should eliminate "the risk of partial or unbalanced literary judgments" of Shakespeare's work. Professor Hussey provides a very useful introduction to a vast and complex subject. Beginning with the enriched vocabulary of Elizabethan English in relation to Shakespeare's own employment of latinate diction and "copiousness", the book moves to a consideration of some uses of syntax and grammar, elaborated according to the scheme of rhetoric, and then comes to focus on Shakespeare's adaptation of established styles at different stages of his career. Without being too technical, Professor Hussey presents the student reader with a wealth of information which is digestible because it is illustrated with well-chosen examples and treated with critical sensitivity and insight.

It is this critical sensitivity which is too often lacking in Dr Trousdale's treatment of literary texts. As a critic, she argues systematically to define "a view of language that seems to me to entail a view of the plays." From the rhetoricians she de-

scribes the principle that language is artificial, distinct from its subject (as opposed to the Coleridgean concept of the inseparability of subject and expression) and a rational instrument structured to effect certain ends. Erasmus, for instance, provided schoolchildren with formulae for saying the same thing in many different ways, and exemplified the art by producing 148 variations on the theme, "Your letter has delighted me very much." As intellectual categories, the logical "places" of invention provide so many frames of reference by means of which things may be described. Such an emphasis on variation extended as well to copiousness of matter: separate and even contradictory truths might be perceived in the same fable, as Erasmus demonstrated in construing the death of Socrates. The pluralism of rhetorical method is, in effect, a kind of structuralism, different from that of the twentieth century in its insistence on the distinction between words and things.

This brief summary hardly does justice to the density of Dr Trousdale's argument, or to the massive documentation supporting its historical basis. But when she turns to the plays themselves, the old issue of the relationship between theory and practice raises itself. How far are pedagogic precepts relevant to Shakespeare's art? His grammar school training in rhetoric clearly served him well as a foundation, and it shows through in his early plays, particularly when he is making fun of it. Not surprisingly, Dr Trousdale writes appreciatively of the "pleasurable puzzles" of *Love's Labour's Lost*. Less adequate to the occasion, however, is her didactic interpretation of *Measure for Measure*, which treats the Duke as a chorine figure enabling us "to comprehend the action intellectually." There is more to this enigmatic character and his questionable contrivances than Dr Trousdale allows. "The Elizabethan audience," she assures us in another of her startlingly abrupt assertions, "and more particularly James I, was meant to learn from the play in much the same way that Angelo and Isabella appear to learn." Leaving aside the gratuitous assumption about Shakespeare's palpable designs on his monarch, one surely hopes that no member of any audience learns "in much the same way" as Angelo and Isabella. Since Dr Trousdale uses the plays as "examples" of, rather than "evidence" for, her rhetorical method, the method itself is presumably not contravened by any limitation in her reading of specific plays. But what is the use of a model which generates such blinkered criticism?

D. J. Palmer

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Out of range

The Cave of Making: the poetry of Louis MacNeice
by Rohyn Marsack
Oxford University Press, £12.50
ISBN 0 19 811718 3

"I would have a poet able-bodied, fond of talking, a reader of the newspapers, capable of pity and laughter, informed in economics, appreciative of women, involved in personal relationships, actively interested in politics, susceptible to physical impressions." So wrote Louis MacNeice in *Modern Poetry*. Rohyn Marsack picks up very little of this potential range in her book on MacNeice.

The *Cave of Making* opens with an account of MacNeice as divided in his early experiences between Ireland and England and between different kinds of Irishness, but it does not go on to relate the poetry to such personal and social contexts, except erratically and sketchily. Marsack hardly uses the Irish point; the politics and economics of the whole period after the war get no space at all; and as for women, we are told nothing of how MacNeice married and broke up with his first wife, or how he married his second wife, or of the experience which inspired "The Introduction". Marsack alludes to but does not investigate MacNeice's uncertain dialogue with Christianity. Even literary relationships are hardly touched upon - Dylan Thomas, for instance, who MacNeice said "made as well as any"; and the whole changing literary scene of the fifties.

Dr Marsack's approach, despite her opening, is to go through the poems commenting on the success or otherwise of their use of language. Some of this is well done in its own terms. There are sensitive and evocative observations upon the early poems, *Autumn Journal* and the last two volumes of poetry in particular ("This sensation of being a stranger

to his own life troubles the poems" in *Visionaries*). Also, a good deal of interesting material is quoted from previously unpublished drafts. My objection to her approach is not that there is no role for formalist criticism of poetry, but that the handling of it here is not rigorous enough. At a time of considerable critical dispute about how to deal with a text Dr Marsack shows no awareness of modern (or indeed older) studies of the way language works, and does not expose the principles of her judgments for consideration. All too often we have this kind of gesturing towards and sliding between issues. He hints at the complexities of his relationship with his father, and the metaphysical reaches of their skirmishes, without going beyond the simple familiarity of the scene he sets. The apparent ease with which he handles the *terza rima* form was perhaps his first indication that he could use it at much greater length, although not, it may be thought, to such advantage.

We get no further elucidation of the metaphysical skirmishes or of the use of *terza rima* in the poem in question, and the complexities of the relationship with the father are not pursued.

I cannot say that this study makes MacNeice appear more substantial and important in 1983. Yet there is a moving and significant mystery about the man who managed to live and write without adopting a commitment in the thirties (even Yeats said it helped to have a belief), and then fell to pieces after the war when commitment became unfashionable, allowing himself to be incorporated into the BBC. We might consider, for a start, D. B. Moore's remark, following Auden: "We must realize that it is in the atmosphere of intellectual shame that the poetry of the war had, inevitably, to be written". If we fix MacNeice in his context he might appear not a major poet but a most illuminating figure in twentieth-century literature.

Alan Sinfield

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James Joyce

Richard Ellmann

Winner of the Duff Cooper Memorial Prize for 1982.

Two decades of Joycean scholarship since the first edition of the biography have not thrown up a finer scholar than Ellmann, to whom have been granted in addition the most uncharitable gifts of wit, grace, and compassion. Joyce is more alive than ever in this wonderful redaction of one of the masterpieces of the age, whose publication must be considered the crowning event of the Joyce centenary. Anthony Burgess in *The Observer*. Illustrated £25

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A. N. Wilson

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Oxford University Press

BOOKS

ENGLISH

Stage managing

"The Winter's Tale" in Performance in England and America, 1611-1976 by Dennis Bartholomeusz. Cambridge University Press, £27.50 ISBN 0 521 24521 X

The *Winter's Tale* has enjoyed a long history on the English stage. In contrast to a number of Shakespeare's plays, it has never been absent from a significant period either from the theatre or from critical discussion. Cut and petrified in the eighteenth century, it became in Keats's hands in the mid-nineteenth century an archaeological showpiece, and with Irving and Beerholm Tree the basis for a lavish pictorialism that enchanted Victorians and Edwardians. Not until Granville Barker staged the play in 1912 did it recover something like its original form by no means in mimicry of Elizabethan stage conditions, but in response to the life of the Shakespearean text. John Palmer gave it as his view, indeed, that Barker's interpretation was "probably the first performance in England of a play by Shakespeare that the author would have recognized for his own since Burbage".

The twentieth century has seen other distinguished productions besides Barker's, some of them in North America and some in England. The Festival Theatre at Connecticut, Ontario and Oregon have tended on the whole to treat the play fairly unreservedly, though Audrey Stanley's Ashland production of 1975 gave the play's tragic aspects full weight. In England Peter Brook (1951), Peter Woolf (1960) and Trevor Nunn (1969) have all offered distinctive and distinguished interpretations.

Dennis Bartholomeusz narrates and documents this history with skill and knowledge. The range of reference is quite vast, to newspaper articles, memoirs and interviews, as well as to books and journals. Of course, Professor Bartholomeusz is at the mercy of his source material. Keats's production, of which on the whole he disapproves, is very well documented and so takes up a good many pages, while other, perhaps more faithful, interpretations have left on record only a faint impression. Occasionally, there are vivid first-hand recollections of performances, such as Taverer's account of Macready in 1823 or Helen Faucit's description of playing opposite the same actor in 1837. But often the historian has to rely on rather perfunctory or prejudiced reviews. It is

noticeable how much more urgent the writing becomes when Professor Bartholomeusz describes the Trevor Nunn production he himself saw on tour in Melbourne. The enthusiasm and exact recall are impressive, though the judgment quoted with apparent approval from the *Australian*, "one of the great stage performances of the world" may seem extravagant to those who saw the same production at Stratford-upon-Avon.

Out of the stage history there emerges a convincing sense of *The Winter's Tale* as a quite deliberate mixture of theatrical styles and historical periods, a coherent incoherence that loses its significance when ticked up to meet the preferences of Victorian scholars or twentieth-century critics or directors (there is a merited adverse critique of the emblematic Trevor Nunn-John Barton production of 1976). Professor Bartholomeusz writes a good deal about the value of his enterprise, and in the end offers a fairly muted justification: "on the whole, despite obvious dangers, criticism could profit by a close, an intimate acquaintance with good theatre". The worry is unnecessary: any competent reader of *The Winter's Tale* will find his sense of the play greatly extended by reading this book.

Despite occasional lapses of judgment, Professor Bartholomeusz gives us all that his book's title promises. *Shakespeare the Director*, by contrast, is a sad disappointment. Dr Slater tells us that this book is a study of Shakespeare's direction of his plays, analysing the implications of theatrical effects specifically engineered by him. In the event, the theatrical reality of his plays is rarely discussed. The chapter called "Position on the Stage", for example, turns out to be largely a familiar discussion of stage doors, discovery space, trap and gallery, coupled with some thoroughly ordinary discussion of the throne and of sitting down ("Sitting down would appear to differ from the other positions an actor can assume on the stage, in that it is primarily realistic and simple.") Similarly, the chapter on costume deteriorates into an unimpressive treatment of disguise. Throughout the work, the emphasis steadily drifts away from theatre towards the emblematic and the literary. Perhaps this is just as well, for Dr Slater shows little experience of theatre. The worst example comes in the chapter "Silence and Pause", where Dr Slater writes:

For instance, Clarence's murderer, doubled up by a sudden cramp of conscience, begs his accomplice: "I prythee stay a little: I hope this passion of mine will hold me while I may say twenty." There should, then, be a twenty-second pause, before the other's impatient demand...

A twenty-second pause would be sufficient in Shakespeare's theatre for murder itself to be committed, on stage or in the auditorium; even in the theatre of Harold Pinter the performance could scarcely survive.

J. R. Mulryne

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Woman and the Demon

The Life of a Victorian Woman by Nina Baym

There is a bold new vision of Victorian culture: a study of myths of womanhood that shatters the usual generalizations about the sequestered, crushed, and egotistical Victorian woman. Through copious examples drawn from literature, art and biography, Baym reconstructs three central paradigms: the angel/demon, the old maid, and the fallen woman. She shows how these myths pervade Victorian literature and culture, and how they reflect the social and economic changes of the period. *Victorian Women: A Study of Myth and Reality*, 1982, £14.00.

Costly Monuments

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HARVARD University Press
126 Wickham Road, London SW1W 9SD

Offering close readings of central poems and insights derived from contemporary literary theory, Harman takes her place in the company. "A brilliant guide to reading Herbert." Stephen Greenblatt, *ELQ*, 1980.

Invented Worlds

The Psychology of the Arts by ELLEN WINNER. Dealing with three major art forms—painting, music and literature—Winner shows how the artist's faith in a symbolic world is inseparable from the experience of the observer. Examining the response of the adult, the child, the mentally disturbed and the neurologically impaired, Winner offers nothing less than a synthesis of our understanding of man's artistic nature. January 1983, £20.00.

Allegory, Myth and Symbol

MORTON W. BLOOMFIELD, editor. The essays in this volume, ranging in time from the Middle Ages to the present and in subject from poetry to philosophy, explore the multiple interpretations of allegory, as well as the important distinctions among allegory, myth, and symbol. Harvard English Studies, 1982, £24.00.



Lilah McCarthy as Hermione, in a production of *The Winter's Tale* at the Savoy Theatre in 1912.

Forerunner and ally

Coleridge, Language, and Criticism by Timothy Corrigan. University of Georgia Press, \$15.00 ISBN 0 8203 0593 6

Surprisingly late in the day, critics with leanings towards deconstructive theory are discovering a forerunner and ally in Coleridge. Thus Coleridge, having been long admired as the representative of "English Romanticism" in its theoretical and critical aspect, and having been more recently placed (by such critics as M. H. Abrams and René Wellek) as a foremost example of European, or Anglo-German, Romanticism, is now being claimed as a venerable ancestor by the modern critical school, on the grounds that he licensed the reader, or reader-critic, to "have created" the work of art as he reads it.

Timothy Corrigan avails himself of this licence in his analysis of the stages of Coleridge's career as critic, which he charts, reasonably enough, in terms of Coleridge's ever-elated but ever-shifting intellectual pursuits. Thus he looks at the political bent of Coleridge's literary criticism in the 1790s, when Coleridge was at his most active politically; the psychological emphasis in the Shakespeare criticism of 1800-1812, when Coleridge was evolving his theories of mind in response to Hartley and Kant; the scientific interest of the 1810s and its fruitfulness for the definitions of poetry in *Biographia Literaria*; and finally the increasing absorption of the older Coleridge in theology, to which all other concerns, including literary criticism, were subordinated. Indeed, in one of the several moments of plain common sense in this book, Corrigan allows, when discussing Coleridge's digressive 1825 lecture "On the Prometheism of Aeschylus", that in the conspiracy of the commentary against the text is overwhelming. What is most peculiar about his work during this period is the unusual extent to which he disregards the primary text and how completely his complex theological models and language usurp that text.

Corrigan's own study, however, sometimes commits the same sin, as when he illegitimately runs together the early poem "Religious Musings" and Coleridge's prose gloss explaining the otherwise gnomic political allusions in the poem. Corrigan does

not seem to see that if, as he approvingly claims, "Coleridge's critical commentary and notes are intended to give the poetry political meaning", the conclusion that any discerning critic of the poetry must come to is that it has failed as a means of communication in itself. Coleridge's critical commentary cannot "vitalize" the text of the poem unless it is read continuously with the text, in which case one is no longer responding to a poem.

Corrigan's aim is to "examine Coleridge's remarks on language", a task which he rightly says has been little undertaken by students of Coleridge. But Corrigan is not a linguist. His book contains no linguistic analysis of Coleridge's prose, and is, in fact, devoid of any close analysis other than that of certain terms which Coleridge imported from extra-literary contexts to his literary criticism, terms such as "egotism" and "benevolence" in the 1790s, and "polarity", "magnetism", and "electricity" in the 1810s. His discussions of these transferences of terminology are interesting, particularly in the chapter on science, in which he compares the terminology of Coleridge's "Hints towards a More Comprehensive Theory of Life" with that of the function and structure (these also being primarily scientific terms) of poetry in the central chapters of *Biographia Literaria*. He also writes well on Coleridge's early political criticism, noticing that Coleridge in the 1790s frequently "uses a poem merely as a window into the poet's heart, where Coleridge finds either a good, casual writer who will be a good, casual citizen or a hard-headed mine society".

The whole collection is a considerable demonstration of the amount and variety of interest in the major English medieval author and of one critic's ability to elucidate and communicate this interest over the better part of thirty years. The idea of collected essays, however, sounds terribly final, an happy to assure his readers that Dr Brewer is alive and well and continuing to write about Chaucer.

S. S. Hussey

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Chaucer's times

Tradition and Innovation in Chaucer by Derek Brewer. Macmillan, £25.00 ISBN 0 333 28427 5

This is the first of two volumes which are to contain the collected essays (1954 to the present) of Dr Derek Brewer, printed, with two exceptions (one new essay and one which is here expanded) as they first appeared in a variety of periodicals.

The second volume will deal with Chaucer as storyteller: this one asks, in a sentence at the beginning of possibly his best-known essay, "Gothic Chaucer": "What is the general nature of Chaucer's works and its relation to his times?" Not so easy to answer. To say Chaucer is "conventional" of course, will not do. It denies him any personality and begs the question whether he is thought conventional simply because he has been more widely read than several of his contemporaries. Dr Brewer instead demonstrates the value of conventions as used by a major poet, when they both formulate and release the stock response.

Some of the essays discuss themes: children in Chaucer, honour in Chaucer, the idea of feminine beauty in Middle English literature. Here there is often illuminating comparison, for instance that Chaucer—unlike nineteenth and twentieth-century writers—never writes from the child's point of view. Other essays, such as "The Arriving of the Warrior" or "The Reeve's Tale and the King's Hall, Cambridge", are more factual: how literature may illuminate history. The views expressed are always anchored firmly to a close reading of the text, and if anyone thinks "themes and conventions" sounds all very general, he should read the sensitive discussion of Criseyde's position in Book IV of *Troilus* and of Arveragus in *The Franklin's Tale*.

Do the essays date? In the earlier ones there is perhaps more reference to the story, more of what Chaucer doesn't do, or does less well than one of his contemporaries, than might be altogether fashionable now. But it has always been Dr Brewer's great virtue as a critic to raise the important questions, to relate literature to both its own time and to ours. Two of the essays ask how we are to characterize Chaucer. Here I admit to finding the earlier (1974) "Gothic Chaucer" more immediately accessible than the later "The Archais and the Modern" which acts as a general introduction to the whole collection. The former shows how inconsistent and even apparently incompatible elements may be sustained within the one work and how the resulting tension resolves itself. The latter distinguishes well enough "archais" features (assimilation of everything to a general system, argument by analogy rather than by synthesis, a largely oral culture valuing repetition) from "modern" or "scientific" (characterized by progressive change, generated by self-criticism, context-free, disseminating complex accurate knowledge through print), but it might have been made easier by rather more examples and a less allusive style.

The whole collection is a considerable demonstration of the amount and variety of interest in the major English medieval author and of one critic's ability to elucidate and communicate this interest over the better part of thirty years. The idea of collected essays, however, sounds terribly final, an happy to assure his readers that Dr Brewer is alive and well and continuing to write about Chaucer.

S. S. Hussey

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Moral Gower

Sections from books one, three, four, five, six and eight of *Confessio Amantis* are included in John Gower: selected poetry, edited by Carole Weinberg and published by Carcanet Press at £3.95.

BOOKS

ENGLISH

Reading for health

Literature as Recreation in the Later Middle Ages

by Glending Olson. Cornell University Press, £14.75 ISBN 0 8014 1494 6

The argument of this book is that pleasure was recognized, in the Middle Ages, to have a legitimate and proper place in man's life, and that the pleasure to be derived from literature, principally stories, was not excluded from the general theorizing about the therapeutic and recreational value of pleasure.

It may seem surprising, to some, that such an argument needs to be made, given that people in the Middle Ages are likely to have enjoyed stories, anecdotes and jokes, as well as music and sexual intercourse, in much the same way as people at any other time; but the weight of the argument falls on the existence of academically respectable theorizing that sanctioned such activities. It is here, in combating the notion of a monolithic moral and didactic culture, and the notion of literature, especially, as that which is written for our "doctrine", that Professor Olson's book aims to break new ground, even if he does have to wrinkle out his arguments from some fairly odd nooks and crannies.

Professor Olson points out first how medieval theories of literature traditionally regarded pleasure as a mere preliminary or accompaniment to the searching out of moral profit. All other forms of "literary" pleasure, as in scurrilous tales and anecdotes, were immoral. Occasionally, pleasure seems to be acknowledged as something more than the servant of morality, as when a thirteenth-century commentator on Ovid's *Amores* says that the usefulness of the work is the pleasure it gives ("Utilitas est delectatio") but it is to another source that we must go to find this idea systematically exploited. It is, in fact, in medieval writing that the pleasure derived from story-telling is placed in the same category of usefulness as bathing, regularity of bowel movement, and diet, that is, as a means to good health. The moderate cheerfulness induced by listening to stories is good for you and helps ward off illness. "Life involves *chances* and *estranges*" is one recommendation, and other writers warn that grisly stories of death and martyrdom should not be read by those in weak health, and that excessively cheerful stories should be avoided, since one may drop dead from too great joy.

This explanation of the efficacy of "light reading" sounds quite reasonable, as does the recommendation of a *Tactician's* *Sapientia*, or handbook of health, that listening to stories is a good way of preparing for sleep. Chaucer makes amusing use of this idea in *The Book of the Duchess*, and certainly represents himself as feeling in much better spirits after his bedtime read. Elsewhere, serious examples of the "hygienic justification" for literature actually being used are hard to find, though Laurent de Premierfait does his best in his preface to his translation of the *Decameron*, which he says will help to raise the spirits ("esbaudir les esprits") of its readers.

Somewhat more serious is the "recreational justification" for literature, which takes as its basic argument that some form of relaxation is necessary for everyone, even for a desert saint, and that story-telling is one such form of relaxation. The image of the "ivory tower" is commonly used: the human will cannot always be kept tightly strung to God's purpose, otherwise it will grow flaccid. Jokes and anecdotes creep in under this privilege, though it is recognized, of course, within this sterner ethical context, that the amusement they give is only to be tolerated in so far as it makes for a more vigorous return to the serious business of life.

Apart from such simple cases, though, the "recreational" argument is usually given only passing attention, and the attempt to collect some examples, in chapter four, does not produce much.

The keystone of Professor Olson's thesis is Boccaccio's *Decameron*, which he sets against the context of the plague-tracts. These advised pleasurable activity, in moderation, such as walking in gardens, good food and drink, lively company, conversation and story-telling, as a defence against the lowering of spirits that makes one susceptible to plague. The parallels with the frame-story of the *Decameron* are quite striking, and tell us something about the attitude of the fourteenth century to both plague and non-didactic literature. There is also some food for thought in the hints given that fiction has a healing power, a power of alleviating distress and drawing us away from a consuming passion by engaging our minds in an activity removed from ourselves.

Where, however, does this get us? As Professor Olson says, not far. If we think of the *Decameron* as "volunteer

medical service" on Boccaccio's part, his problem, throughout this sensible and informative book has been to demonstrate the significance to the study of literature of the theories that he has been illustrating. Often "story-telling" exists on the fringes of the theories of a hygienic and recreational justification of pleasure, and the kind of story-telling alluded to exists only on the fringes of literature. It may be, that in trying so hard to prove that the Middle Ages could take pleasure in literature, Professor Olson has been unduly influenced by the argument that all medieval literature was didactic. A possibility he does not entertain is that the monolith he is so assiduously chipping away at does not exist, and that medieval writers and readers knew a great deal better than medieval and literary theorists what "pleasure" is to be taken in literature.

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Literary theology

Paradise Lost: a humanist approach by K. G. Hamilton. University of Queensland Press, £14.45

ISBN 0 7022 1626 7
Milton and the Science of the Saints by George B. Christopher. Princeton University Press, £16.80 ISBN 0 691 06508 X

These two books offer radically different kinds of assistance in our reading of Milton's poetry. Professor Hamilton, urbanely relaxed, eschewing reference to source material or criticism, claims to "uncover the special significance and interest of *Paradise Lost* for the present-day reader... [rather than] concentrating on the origins of the poem in seventeenth-century attitudes". Professor Christopher, on the contrary, is convinced that the most significant perspective on Milton's poetry comes from an understanding of Reformation attitudes towards the nature and status of "a text", whether scriptural, doctrinal, or poetical.

The first has all the virtues, and vices, of an approach seeking to show how *Paradise Lost* "lives today". Hamilton insists that Milton's focus is on "the measure of all things", illustrating through the poem's architecture, moral questions and characters. The poem's actions are considered in terms of psychological profiles and motivations. The essays, subtly compendious of much that has been written about the poem, are sometimes acute, sometimes merely routine. But the dimension that is always missing is that of form: there is no recorded awareness that Milton is writing a Renaissance epic poem in twelve books. Is this because such a form insistently requires of its reader some contact with "seventeenth-century attitudes, beliefs and traditions"? Failure to acknowledge this small fact can have curious consequences.

For instance, the War in Heaven can be accounted for without any serious response to its extraordinary linguistic characteristics. Discussion of the meaning of Milton's "tragic" notes can move into an application of Hegelian tragic theory, in which context Hamilton rightly observes that "because it is a theory of tragedy rather than of morality, Hegel's concept does not call on us to decide whether Adam was right or wrong" — thus evading a possibly abstruse seventeenth-century attitude towards the notion of disobedience.

Such evasions are characteristic. The "humanist approach" has to assume that there are certain things about Milton's poem not to be taken too seriously. "The sociology of religion," works against our taking the sacramental aspect of Milton's poetry very seriously because those who hold his precise doctrinal views today may be on the fringes of society and display an antagonism towards

education and high culture that would have made Milton gasp." Serious discussion of Milton's theology may run the risk of making the great poet culturally declassé, but this is no reason for fudging, as Hamilton does, the "fundamental" question of Adam and Eve's freedom of choice. Recognizing the problems ("if the fall is the will of God, then is it still possible to accept that man had free will?"), Hamilton suggests that "we must believe" that God foresaw the fall as a means of furthering man's best interests. While we are digesting the implication of this credo we are also asked to believe that this "does not mean that God's foreknowledge caused Adam's fall". While the humanist critic flounders, Milton himself and a vocal throng of Reformation theologians stand in the book's margins, helplessly bound and gagged.

In Georgia Christopher's study different voices have their say. Though difficult and rigorous, her book is ultimately much truer to the primitive complexity of Milton's work. Her argument is that Milton assimilated classical literature (that is, he read his Homer and Virgil and Ovid) not through humanist categories but Reformation ones. She shows us Luther and Calvin and Milton reading and responding to those same texts, and shows them reading scriptural texts. Where The Holy Spirit conducts the reader of the Bible to scriptural truth, that same *viva vox Christi* may break through other texts and conduct a reader to "literary epiphany". Since, it is argued, God is conceived of by the Reformers primarily as Word, text, speech or locution, not image or physical symbol, and since reading, studying, meditating on the scriptures, and professing, confessing and testifying comprise a characteristic "theology of the word", such epiphanies are more than merely "literary"; they are doctrinal too. "In Milton's tradition, the Spirit clings, not to bodies, but to language itself, and skips like Ariel along the tucks and gops in the syntactical chain."

Christopher is a little like Ariel herself, fast as quicksilver, and illuminating all sorts of dark corners. Hers is a stimulating and rewarding book. She points out that Luther noticed that "the procedure of Moses is correct: he suggests by dots, as it were, situations that cannot be expressed in words" and urged exegetes to fill out these Old Testament lattice tales, accumulating details from their own situations, feelings and experience. For the humanist perhaps the dots don't count any more, but for Milton, whose experience was vastly literary, the grand fusion of epical and biblical, and the constant local *amplificatio* and *contaminatio* of ancient authors, producing a bewildering simultaneity of voices and verbal texts, affirms the doctrinal weight and strategy of his major poems. The emphasis here is not on Milton's inconveniently theological literature, but on his literary theology.

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Liminal man?

Wordsworth's Vital Soul: the sacred and profane in Wordsworth's poetry by J. R. Watson. Macmillan, £20.00 ISBN 0 333 30962 6

"Wordsworth's poetry, as a whole," writes Watson, "is concerned with beliefs and values which are basic to an understanding of man's relations with man, and man's relations to God." The generalization masks more precise interests. Professor Watson is concerned less with Wordsworth's poetry than with certain "religious" qualities that he sees as underlying the actual works themselves.

The ambiguity in the term "religious" is deliberate. At one level Watson takes the word in a technically anthropological sense in order to show elements in Wordsworth that can be compared with such primitive (and therefore, by implication, also universal) ritualized phenomena as Shamanism, while at another level he views Wordsworth through a much more narrowly Christian and theological perspective in order to show his relationship to the Old Testament tradition of the prophet/poet. The two levels, it is implied, are not in conflict, but comprise ends of a continuum that embraces the whole human experience of the "sacred".

At the anthropological level Watson identifies (for instance, Wordsworth's journey across Salisbury Plain (at once an actual journey and a spiritual "progress") "a striking resemblance to the primitive rituals first described by Arnold van Gennep in *Rites of Passage*". Such rites are, we are told, "marked by three phases: separation, margin (or *limen*, signifying "threshold" in Latin), and aggregation." In the first stage the subject becomes an outcast from the norms of conventional society. The ensuing "liminal" condition is characterized by what is called *communitas*: a word that combines a sense of unhierarchal fellowship with all mankind and a sacred or holy state in which the subject, freed from institutionalized relationships, experiences a new potency and insight. The final reintegration (as in the ending of *The Ancient Mariner*) involves once more a clearly defined system of rights and obligations. At the theological level — essentially that of content rather than structure — Wat-

son draws parallels between Wordsworth's subsequent vision of Nature and Martin Buber's famous distinction between "I-Thou" and "I-It" relationships. The Nature Wordsworth recaptures is a sophisticated and philosophical version of the instinctive childhood sense of a living environment of which the self is an organic part.

If neither of these strands is particularly original in itself, Watson's synthesis is both subtle and illuminating. Though his argument is essentially ahistorical he provides, in effect, a latter-day argument for Wordsworth's sense of the universality of his themes from low and rustic life, as well as helping to place him more firmly in the great tradition of English religious poets.

Nevertheless, stimulating as Watson's argument is, for it to be wholly satisfying there are two further distinctions that need to be clarified. The first concerns an ambiguity inherent in the summary of van Gennep that Watson quotes. It seems to me that being "liminal" — the state of being on a threshold and about to pass into another phase — is fundamentally different from that of being "marginal". For example, Richard Leakey's vision of early man is as being essentially "marginal" in his life-style, neither at home on the plains nor in the forests, ill-equipped either for hunting or quick escape. His big brain and social adaptability arising directly as a consequence of not "belonging" in any safe ecological niche, man is here "marginal", but not "liminal". On the other hand, the obvious theological parallel, that of the medieval view of man as an "amphibian", part beast, part spirit, at home in neither the animal nor the heavenly kingdom, is fundamentally "liminal". Dante, for instance, is in no doubt that he stands on the threshold of a higher existence, even if the consummation is not of this world. It is easy to see how Wordsworth's solitudes and philosophic pedars are marginal; it is less clear that they are liminal. The second distinction arises from this, and is reflected in Watson's sub-title. The opposite of the "sacred" state of "liminality" is surely not the "profane" but the *nundane*. Wordsworth is hardly ever interested by the profane; he is deeply absorbed by the sacredness of the ordinary, and we have much to thank Professor Watson for in reminding us of that fact.

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BOOKS

ENGLISH

Doing poetic justice

Daphne Ito Laurel: translations of classical poetry from Chaucer to the present
 edited by Richard Stoneman
 Duckworth, £24.00
 ISBN 0 7156 1646 3

In his introduction to this anthology Richard Stoneman states that great translations "add something to the literature of their own language" and that this can be achieved only by "one who is a poet in his own right." Yet Shelley, who made some of our greatest translations from Greek, wrote of "the vanity of translation", and although other great English poets are represented in the anthology, some of the finest translations here are the work of lesser men - poets who were raised above their normal stature by sympathy with the greater genius of Homer, Aeschylus, Aristophanes, Virgil, Ovid and Horace.

Aristophanes, whose genius for comedy is unmatched in English, is marvelously re-created by John Hockham Freer and B. B. Rogers; Horace is not less well treated by that versatile translator Sir Richard Fingliffe, whose version of *Aeneid* IV in Spenserian stanza is J. W. Mackail considered the best English translation of that much translated book. And Aeschylus, whose difficulties no one attempted till late in the eighteenth century, found in Louis MacNeice one who could combine "a fidelity to the sense with a style recognizable as real contemporary poetry."

This, surely, is the secret of all successful translation: Chapman presents Homer as Homer would have written in Chaucer's day, which could not be said of Pope, perhaps because it is easier to think of Homer in the context of Greenville, Drake and Raleigh than of Marlborough, Newton and Queen Anne. That, no doubt, is why Dryden and Pope were unable to compose their own heroic

poems, as Spenser and Milton had done, and must fall back on translation. Dryden's distinction of three methods of translation (metaphrase, paraphrase, imitation) is rightly commended: this anthology consists in the main of the second class, "where the author is kept in view by the translator... but his words are not so strictly followed as his sense. Dryden's example was Waller's *Aeneid* IV (from which no passage is here included). The author of the preface to the 1695 *Epigrams of Maritius* Englished sums up succinctly the demands made on a translator:

He that translates, than he that writes, does more; For he must please upon a double score; That of his author first, then on his own. Hold out compar'd, be good when read alone.

Many of these pieces will "hold out compar'd", but some which were once admired - Golding's Ovid, Pope's Homer, Gilbert Murray's Euripides - perhaps will not. That is, indeed, a more severe test than "good when read alone"; but presumably most readers of this anthology will not impose the test of comparison.

The anthology admirably fulfils its primary purpose, and will introduce the reader who has little Latin and no Greek to versions which generally convey the "feel" of the originals, though a few have been chosen to illustrate the unintentionally comical: Stanyhurst's rife-rife Virgil, and Browning's *Agamemnon*, which suggests Housman's famous parody rather than Aeschylus, among these. There are considerably more Latin poems than Greek, because Latin was more widely known and, for the first three centuries, still spoken. Virgil and Horace, Catullus, Ovid and Martial are well represented by more than twenty English versions, but only Homer among the Greeks attains that number. It is odd that there should be "all those nauseous epigrams of Martial" but only four from the Greek Anthology, not even including Simonides on the Spartan dead at Thermopylae. (W. L. Bowles's fine translation found its way into the *Oxford Book of Verse in English Translation*.)

More care in production could reasonably have been expected in a book for which the extravagant price of £24 is exacted. There are too many signs of bad proof-reading: in the introduction, in the head-notes (which are brief and useful), and, worse still, in the texts. There are also errors of fact - Beaumont's

Crown of Thorns is not "lost" but can be found in the British Library MS Add. 33392 - and errors of transcription that are far too numerous to list, but the first line of Craschaw's version of Horace Odes 2.13 should read "ill-nurtured" not "ill-natured tree" and Cotton's version of the second Epode has several errors of which perhaps the most revealing is "Hiding the inverted cult home", for culter (coulter).

John Buxton

John Buxton was until recently a fellow of New College, Oxford.

The desire to affirm

The Novels of Colin Wilson
 by Nicolas Tredell
 Vision, £9.95
 ISBN 0 85478 035 1

To most of us, Colin Wilson already seems a historical figure. After the initial success of *The Outsider*, published in 1956 when he was 25, and the resulting years of acclaim and notoriety, Wilson has since engaged with increasingly obscure areas of the paranormal, sexuality, and the psychology of murder. (Indeed, his favourite and characteristic novelistic mode is to somehow combine the two.) He has been regarded both as a frigate enthusiast of the sixties - both with some justice. In fact, the tension between these periods, and their characteristic voices, to some degree helps us to account for the strain that may be felt in all of Wilson's work, and particularly in his novels.

Wilson has consistently denigrated, as a "libel on life", what he thinks of as the black-willed hopelessness of modernism. He has dismissed Joyce and Eliot in favour of Wells and Shaw - and attempted to promote a programme of self-betterment that has its roots (if not its ends or nature) in Victorian optimism. As a kind of evolutionary existentialist, his single-minded aim has been to try to lay out the ground for what Nietzsche has called the "new philosophers", whose task it will be to lead us into an era of expanded consciousness. He believes - fairly enough - that the mind has powers as yet untapped and uncharted; he also believes - more controversially - that progress into the unexplored realm can be, under the right conditions, willed. Not a simple act of will, certainly. Nor even a complex one: rather, a kind of paradigm leap that might be accomplished through some happy combination of giftedness, right influence, seriousness, withdrawal, and (possibly) chemical assistance.

In his discursive works, Wilson has attempted to map out the grounds for this belief, and to describe the symptomatology both of the torpid everydayness that he loathes and fears, and of that extraordinary potential for quickness that he senses in us. In his novels, from *Ritual in the Dark* (1960) to *The Space Vampires* (1976), he has tried to explore and to enact the various positions and possibilities posited in his expository works. But these novels, with rare exception, have never seemed to generate more than a small, if enthusiastic, readership. In part this may be an ironic byproduct of the success of his non-fiction, but largely it is because they are not, in the main, very good novels.

In his brisk and useful short book, Nicolas Tredell makes an attempt both to acknowledge the justness of this assessment, but also to explicate the grounds which Wilson might have - and has - used to defend himself from it. Certainly, by the standards that he has rejected, Wilson's novels are difficult to make a case for. An amalgam of disparate "popular" and "serious" modes (the thriller, science fiction, the gangster novel, the philosophical treatise), a typical Colin Wilson novel is never likely to meet the demands of criteria of excellence drawn either from the canons of social realism in the nineteenth century or derived from the self-reflexive obsession with technique in the twentieth. His aim, rather, has been to prompt - to demand - some facing up to the

deadness of a life controlled by what he has sometimes called the "robot": mechanical, programmed, futile. As early as 1962 Wilson was able to describe his ambitions in terms which, while modified in the succeeding years, still seem faithful to his intentions: "I see my problem as this: to start from Eliot's sense of his age, to take into account everything that he took into account, and still to finish with an overwhelming affirmative vision". Never mind the casual problems here - the implicit attribution of unrelieved pessimism to Eliot, or the uneasiness of such a notion of "taking account" - the major difficulty lies in whether one can will such an affirmation. Especially: whether one can will it in advance of the experience out of which it is programmed to arise? We are left in doubt whether such an affirmation affirms anything other than the desire to affirm. And the desire to affirm, as we know from Lawrence, is a symptom more of dislike and despair than of any deep-rooted optimism.

This becomes clear enough when we look at the heroes of some of Wilson's novels. Thus Gilbert Austin of *The Mind Parasites* (1967), telepathic, psychokinetic, a full-blown example of the man towards whom humanity has allegedly been striving, ultimately regards his unevolved fellows as "alien and repulsive, little better than apes". Mr Tredell argues sympathetically that the inability to actually portray what it is that one envisages in the future doesn't discount the strength or even veracity of one's vision of it, but one is left with the unhappy feeling that if that is what we are evolving towards, we're already there anyway. There's enough hatred about now, and the extensory powers that Wilson attaches to his version of it strike one as merely video-game accessories.

This is, perhaps, a little unfair, but the disposition to be unfair is a symptom of how far away the project seems to have gone, and of how high one's hopes for it were at the outset.

R. A. Gekoski

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Where are the heroes?

The English Hero 1660-1800
 edited by Robert Folkenflik
 University of Delaware Press, £14.50
 ISBN 0 87413 174 X

Robert Folkenflik notes the prevalent assumption that "an age so patently interested in mock-heroic has little interest in the heroic itself." He implies that the present volume will do something to correct this misunderstanding; but alas, with the honourable exception of his own study of "Johnson's Heroes" his contributors do little to justify this expectation. The majority of the essays offer further excursions over the well-trodden mock-heroic terrain of Dryden, Restoration comedy, Swift and Fielding, as though convinced that the only true heroes of the age bore a motley garb of irony and bore a strange device of paradox.

Among the essays the most interesting is Claude Rawson's study of Swift's "self-apology" in his poetic satires. Rawson describes Swift's adoption of a deliberately low style as unheroic rather than mock-heroic, "a knowing and sophisticated replay of [a] low and primitive curse" which cannot agree with him that Swift "forgets himself so far" in his *Verses on the Death of Dr Swift* as to believe to be true the false claims which he makes for himself there. But Rawson's careful attention to the tone of Swift's poetry makes his arguments stimulating even when most contentious. By contrast, Larry Carver's failure to offer any adequate interpretation of the ironic tones of his ingenious exegesis of Dryden's poem as a variation on the traditional patriarchal theme of the king's two bodies unconvincing. He begins by observing that "it is no coincidence that *Abdalom* and *Achitophel* was published on or shortly before

November 17, 1681 because November 17, the anniversary of Queen Elizabeth's accession day, was also the date of the great pope-burning 'ceremonies'." However, he seems unaware of Philip Harth's essay "Legends No Histories" (1975) which pointed out that Dryden's choice of a publication date was determined by the fact that Shaftesbury was due to appear before a grand jury at the Old Bailey exactly one week later.

I. Paul Hunter's essay on "Fielding and the Disappearance of Heroes" is, for the most part, a conventional study of Fielding's debt to Scribnerian satires on "greatness". However at one point he alludes glancingly to an alternative heroic tradition in the works of such authors as Blackmore and Defoe. Blackmore is shrugged off, perhaps rightly, as a "stubborn minor talent", but Hunter's disregard of Defoe is quite unjustified. Cruse, we are told, is a "non-exemplary" figure because he acquires wisdom painfully, through a process of trial and error. Moreover "Defoe has to take him a long way from England to raise Cruse as high as he does." Hunter conveniently forgets that Moll Flanders's heroic struggles take place in the heart of London. Robert Folkenflik makes a particularly telling point in his study of Johnson's Heroes when he observes that for Johnson the idea of duration, of constancy through time, was central to his concept of true heroism. Folkenflik notes that in Johnson's definition of genius "the operative words, repeated a total of six times, are 'still' and 'always'. Johnson throws his emphasis on the persevering quality of genius." Peter Hughes's study of "Erotic Heroism" is a wide-ranging essay designed to prove that the period witnessed "the displacement of male and military honour by the triumph of female and erotic virtue". However, since the majority of Hughes's examples are drawn from Corneille and Racine, the relevance of his conclusions to a study of the English Hero is somewhat tenuous. Arthur Lindley suggests that Richardson's Lovelace may be modelled on Dryden's Ammanor and Howard Anderson offers a series of character studies of the hero/villains of the Gothic romances of Horace Walpole, Anne Radcliffe and "Monsieur" Lewis.

It is worth reminding ourselves that Rousseau considered *Robinson Crusoe* a "wonderful" book, the single indispensable work of world literature. From its first appearance, readers of Crusoe's *Life and Adventures* noted the heroic qualities of the nature of that heroism have altered through the ages. It is not true, as James William Johnson suggests, that the period between 1660-1800 looked literary heroes. On the contrary, it abounded with them, and just a few may be mentioned here. Dryden's Aureng-Zebe (1676); Bunyan's Christian (1678); Blackmore's Prince Arthur (1695); Steele's Christian Hero (1710); Addison's Cato (1713); Defoe's Crusoe (1719); Lillo's George Barnwell (1731); Pope's John Kyrle (1733); Glover's Leonidas (1737); and perhaps the most heroic of all, Richardson's Sir Charles Grandison (1754). None of these heroes receives any serious consideration in this volume, and most are not even mentioned. This very omission is perhaps the most revealing that the only true heroes of the age were a motley garb of irony and bore a strange device of paradox.

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David Nokes

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Tristram Shandy is published in Oxford University Press's World Classics series on February 17 (£3.95). The text is based on the first editions of all nine volumes.

BOOKS

ENGLISH

Cultural background

Premises and Motifs in Renaissance Thought and Literature
 by C. A. Patrides
 Princeton University Press, £14.10
 ISBN 0 691 06505 5

Professor Patrides has brought together a collection of essays originally published separately in scholarly journals, the research for which was carried out while he was working on his best known books, *Milton and the Christian Tradition* and *The Grand Design of God*. Now he has recast them, documented them more fully, and arranged them so as to provide a comprehensive vision of the Renaissance at large, his concern being "to annotate certain developments in terms both of their background in our cultural heritage and of their foreground in our commonly shared literature."

It is questionable whether, despite his careful arrangement, this book provides the comprehensive view he aims at; rather, it remains a series of discrete studies of varying interest and importance, some of them (as he himself admits) concentrating on minute aspects of Renaissance thought. The 12 chapters deal with the following topics: the orders of the angels; the images of Jacob's ladder and the golden chain of Zeus linking heaven and earth; the date of the creation; examples of numerological analysis; the upright form of man; the Protestant identification of God's promise to Adam as "the first gospel" (the most interesting chapter); the death of Pan and the cessation of the pagan oracles; contempt for the multitude of the wicked, especially the Ottoman Turks, instruments of the golden chain of Zeus linking heaven and earth; the date of the creation; examples of numerological analysis; the upright form of man; the Protestant identification of God's promise to Adam as "the first gospel" (the most interesting chapter); the death of Pan and the cessation of the pagan oracles; contempt for the multitude of the wicked, especially the Ottoman Turks, instruments of the golden chain of Zeus linking heaven and earth; the date of the creation; examples of numerological analysis; 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Colleges of Higher Education



DIVISION OF COMPUTING

PRINCIPAL LECTURER
SENIOR LECTURER/LECTURER II
LECTURER I/LECTURER I

3 posts available due to expansion of courses in Information Technology.

Candidates should be graduates (or equivalent) with experience of programming in one or more languages (eg PASCAL, COBOL, ASSEMBLER) together with expertise in areas such as Operating Systems, Graphics, Data Processing.

The College has a powerful, modern computer system and substantial microcomputer based facilities. Salaries inclusive of area allowance within the ranges: Principal Lecturer £12,182-£13,521 (bar)-£15,249 Senior Lecturer £10,404-£12,182 (bar)-£13,047 Lecturer II £7,068-£11,263 Lecturer I £5,595-£9,468

Send SAE for further details and an application form to be returned within two weeks of the date of this advertisement. Vice Principal, Slough College of Higher Education, Wellington Street, Slough SL1 1YG.

Slough College

WESTMINSTER COLLEGE Oxford
HEAD OF EDUCATION
AND TEACHING STUDIES
(GRADE V)

Applications are invited from suitably qualified candidates for the above appointment commencing 1st September, 1983. The College is looking for an experienced person with real flair and insight to take responsibility for the co-ordination and development of education and teaching studies in the College, including existing courses, research, and the planning of new courses.

The College teaches the B.Ed. and P.G.C.E. courses and has an extensive commitment to in-service.

Further particulars may be obtained from the Principal's Secretary, Westminster College, North Hinksey, Oxford OX2 9AT (Tel. No. 0865 247644), to whom all applications, addresses and telephone numbers of three referees, should be sent.

The closing date for receipt of completed applications is the 18th February, 1983.

CANTERBURY, CHRIST CHURCH COLLEGE OF HIGHER EDUCATION

HEAD OF ART AND DESIGN DEPARTMENT

Applications are invited for the post of Principal Lecturer and Head of the Art and Design Department.

Salary: Principal Lecturer £11,931-£15,016 pa.

The college offers BA, BEd and BSc degrees, PGCE, advanced diplomas and higher degrees in Education.

For further details write to Mrs. Jean Long, Personal Assistant to Principal, enclosing a stamped addressed envelope, to whom applications should be sent as soon as possible and not later than 28 February.

Awards

The University of Hull

POSTGRADUATE AWARDS

Applications are invited for the post of Principal Lecturer and Head of the Art and Design Department.

Salary: Principal Lecturer £11,931-£15,016 pa.

The college offers BA, BEd and BSc degrees, PGCE, advanced diplomas and higher degrees in Education.

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WESTMINSTER COLLEGE Oxford
PRINCIPAL LECTURER
IN JUNIOR EDUCATION

Applications are invited from suitably qualified people for the above post commencing 1st September, 1983. The successful applicant will have responsibility for the co-ordination and development of programmes relating to the 7 to 13 age-range and, in addition, responsibility for the leadership of the Junior/Middle staff team.

Further particulars may be obtained from the Principal's Secretary, Westminster College, North Hinksey, Oxford OX2 9AT (Tel. No. 0865 247644), to whom all applications, together with full curriculum vitae and the names, addresses and telephone numbers of three referees, should be sent.

The closing date for receipt of completed applications is the 18th February, 1983.

Colleges of Technology

HAMPSHIRE
EDUCATION COMMITTEE
HIGHBURY COLLEGE OF TECHNOLOGY

Re-advertisement

PRINCIPAL
(Group 8 - currently under review)
Salary - £22,929

Applications are invited for the above post which becomes vacant from 1st September, 1983, upon the retirement of the current post holder.

Further particulars and forms of application, which must be returned by Friday, 25th February, 1983, may be obtained (free of charge) from the County Education Officer, The Castle, Winchester, Hampshire SO23 8UG quoting FE/STAFFTY.

Those who previously applied should let the County Education Officer know if they wish to be reconsidered.

Further particulars may be obtained from the Principal's Secretary, Westminster College, North Hinksey, Oxford OX2 9AT (Tel. No. 0865 247644), to whom all applications, addresses and telephone numbers of three referees, should be sent.

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ROYAL COLLEGE OF SURGEONS
IN IRELAND

123 St. Stephen's Green, Dublin 2, Ireland

The Royal College of Surgeons in Ireland is a privately owned and supported institution founded in 1784 and governed by Charters.

The College manages an International Medical School for the training of doctors and is a recognised College of the National University of Ireland. Graduates receive the M.B., B.Ch., B.A.O., degrees, in addition to the historical qualifying diplomas and letters testimonial L.R.C.P. Irel. & L.R.C.S. Irel.

The Medical School is accommodated in a modern purpose built complex and is rated as one of the world's leading international medical centres. The College demands, promotes and maintains the highest standards in undergraduate and post-graduate medical education.

A handbook, describing the medical curriculum, also application forms and details concerning admission may be obtained, on writing to the Admissions Officer at the College. Applicants are reminded that the final date for receipt of applications is March 15th, 1983.

The Registrar,
The Royal College of Surgeons in Ireland.

Research & Studentships continued

University of
Newcastle Upon Tyne
Department of Electrical
and Electronic Engineering
TWO RESEARCH
ASSOCIATES IN:
(1) MONITORINGMATHEMATICAL
MODELLING OF
TURBOGENERATOR
OPERATION
(2) COMPUTATION
OF MAGNETIC
FIELDS AND
ELECTRO-
MAGNETIC DESIGN

Applications are invited from suitably qualified candidates for the above posts. The successful applicant will be responsible for the co-ordination and development of programmes relating to the 7 to 13 age-range and, in addition, responsibility for the leadership of the Junior/Middle staff team.

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The University of
Leeds
Department of Physics
SCIENCE AND
ENGINEERING
RESEARCH
COUNCIL CASE
STUDENTSHIP ON
CHARACTERISATION
OF CROSS-
LINKED
POLYETHYLENES
BY PULSED NMR

Applications are invited from suitably qualified candidates for the above post. The successful applicant will be responsible for the co-ordination and development of programmes relating to the 7 to 13 age-range and, in addition, responsibility for the leadership of the Junior/Middle staff team.

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Further particulars may be obtained from the Principal's Secretary, Westminster College, North Hinksey

Don's diary

Sunday

Re-entering Beirut was as I imagine landing in spacecraft Columbia after its dream journey. For two weeks we had been drifting across Europe, a night in Paris, a day in our Tuscan house, two or three days in Peloponnesos revisiting Mycenae and Epidaurus, three days at sea. Now suddenly, in the space of a single day, we had to run the gauntlet of landing the car at Latakia in Syria, cross the border and drive through northern Lebanon still in the hands of Palestinians and Syrians of dubious intent, cautiously skirt any street fighting in Tripoli then perhaps arrive at the capital to find out apartment bombed to smithereens or occupied by refugees. We kept reminding ourselves that people were leading their normal lives every day all along our way, it was only the selective nature of news bulletins that made it all seem so dangerous. We shouted and wept with release of tension when at last we turned the key and found our flat exactly as we left it in the fifth week of the Israeli invasion last July, give or take a few bullet holes.

Monday

A new sign outside the faculty welcomes me aboard on behalf of the American Marines. Mountains of earth obstruct my way, thrown up to shield Israeli tanks from their bombardment of neighbouring Beirut. Our tarmac forecourt has been churned into a morass, every pane of glass has been systematically smashed in the five-storey glass and concrete building but the structure itself has stood up well.

The group of students and staff in the chairman's office greet me with what sounds like a shout of acclaim. I am surprised and touched until I find out the reason: they had just that moment gathered there to consider what to do about my statistics course in my absence. I am two weeks late for rejoining due to an accident earlier in the summer. I escaped all the perils of Beirut only to fall off a mountain in Italy with serious damage to my right arm.

My colleagues regale me with stories of the appalling mess they found when they first returned after the withdrawal of troops. All the laboratory equipment stolen or smashed, the floor piled high with debris and broken glass, everywhere piles of human excrement, trade mark of passing armies throughout history. Every drawer and cupboard and pile of rubbish had been searched for "nate bombs", plastic bottles which on touch explode into fragments and embed themselves in human flesh, invisible to X-rays. The mammoth clean-up has been carried out by the Marines. Some colleagues took the view that this was the least they could do when so many lethal objects had been dropped on our heads by courtesy of the American taxpayer but the Lebanese are too deep-rootedly cosmopolitan to hold individuals accountable for the actions of their governments. On the whole we are grateful to them and I even forgive them their "Welcome. About tonight, I catch eight of them in the corridors and they fall on me when they discover I am English. They want desperately to know the Arabic for basic phrases such as "You are beautiful" and "I love you". So many ravishing girl students flitting about and they cannot even say "Hello".

My first lecture. It is on linear models and the board is soon starred with matrix equations. I have picked up while the Israeli invasion interrupted us, and short, flimsy course in piece time for Christmas. I find I can write on the board with my injured arm but cannot rub it out afterward. The chalk comes to my rescue and I take it in time until one lovely smiling girl looks the others away and appoints herself my sole aide. I notice the twinkling of her eyes with the first

Tuesday

movements that make up what is called grace. I am still painfully re-educating my own to carry out even minimum functions.

Wednesday

Today every street is gay with flags for independence day. With so much of Lebanon still occupied the title is ironic, none the less the city has a champagne elation. Nothing can quench the joy of having the frontier between East and West swept away. People stroll safely in the streets and take coffee in the pavement cafes until late at night. I take an afternoon stroll in the old centre which I have not seen for seven years, while it has been a Tom Tiddler's ground for warring gangs masquerading as guerrilla fighters. I have more desire to weep than to sing. I can scarcely find my way, the destruction and chaos wrought by civil strife in this ancient heart of the capital is almost more hideous than the churn up of the southern suburbs by Israeli bombs.

Thursday

After class I nerve myself to head for the library. It might have been worse. About 80 per cent of the books have survived in more or less usable condition. Most of them are standing about in piles on the floor waiting to be checked. I think of all the works and days of hands we all have spent perusing new texts and searching out missing volumes to complete runs of periodicals. Brute war despoils carelessly in a day the work of many lifetimes.

Friday

As I walk towards the faculty eight of my more obstreperous first-year students bear down on me in an ancient Mercedes, whooping and jeering. As they crowd round I start to say I had hoped the Israelis had taken care of them but the words die in my throat. Instead I touch each one to make sure they are still in one piece and inquire anxiously about their families. So far all my boys are OK but there are still many empty places.

The weather is still sunny but a cold wind from the snowy mountain tops makes a leap through the glass-less windows and licks its tongue into the corners of my classroom. I keep warm moving about but the students shrug into their djellabas and anoraks and complain bitterly. An army of glaziers and painters is at work however, new sheets of thick architectural glass are stacked everywhere, marked in Arabic figures for the number of the room for which they are intended. New equipment is being moved in. Within a few weeks the only sign of the Israeli passing will be that the university building has had a face lift. The courage of this people is not to fight battles but to shrug off the blows and start rebuilding before the dust has settled.

Saturday

Time to breathe. I take a couple of visiting English students to the mountains. We drive to a point high above my favourite valley and walk down a difficult footpath to the village below, inaccessible to cars. Qorayya is its name. The villagers give us white cheese, olives, then mountain bread and apple jam. We return their gifts with biscuits and chocolate and highly inappropriate medicines for their many ills. It is a comfort to find one corner of this beautiful land still untroubled by the brutal soldiery.

Peter Heymans

The author is English and is professor of mathematics in the Lebanese University, Beirut. He is the only non-Arab professor in the faculty of sciences.

The death of a great teacher



Patrick Nuttgens

dom, the individual and the group. We wrote essays for these meetings and had them taken to pieces by the doctor.

I cannot adequately describe the experience, partly of those discussions but more especially of the tutorials in history that we had in the sixth-form library. For one mind-shattering year I found myself immersed in a series of intellectual encounters that changed for ever my limited understanding of history and opened up a world of speculation and delight.

It was literally a revelation. A high scorer in school certificate history, I had thought that I more or less knew what history was about. Now suddenly, with Ullmann crouching at the head of the table in the library and challenging everything we said, it was all blown to pieces, picked up bit by bit and put together again in a totally new pattern.

Whatever may have happened to the others (we were a small group and rather a bright one) it happened to me in a discussion about the meaning of the Renaissance. Ullmann would not accept any of our offerings about its meaning - political, social, economic, literary, artistic. To him, a scholar immersed in the intellectual world of the Middle Ages (he later wrote a great book about *The Individual and Society in the Middle Ages*) the Renaissance was a much more fundamental revolution - nothing less than a revolt against an entire philosophical system.

I am not really concerned with

whether his interpretation was right or wrong, defensible or not. What I experienced was the impact of having encountered an original mind and the intellectual energy of a great teacher. History could never be quite the same shape again. He saw it - and taught us to see it - as great unity. Because he was himself a lawyer who had turned to history, he brought together history, law and politics and found a unity (that he may sometimes have exaggerated) in the whole intellectual climate of the time.

I think it is worth emphasizing the impact he had on us as a teacher. I know he was regarded as a great teacher by many students at Cambridge as well. Some of his fellow scholars may have missed that simply because of his insistence on the importance of research - "researchers" - and his total devotion to it. For him it had to be research into primary sources, going back constantly to the original. I suppose even at school I must have indicated a certain scepticism about research because he went out of his way to point to those of my contemporaries who would be genuine scholars (actually he was quite wrong) and puts me in my place. "I know the kind of person you are, Nuttgens," he would say in a sort of twinkling way that brought a kindliness to his words that might not be obvious from seeing him in print. "You are the kind of person who will write an entertaining piece or book that is merely the eleventh book out of ten." He was quite right. (I have actually carried out some genuine research but I doubt if Ullmann would have been much impressed.)

He was a very nice man. When, at the end of one of my essays he wrote a scathing quotation that I knew he could only have got from his wife, I waited for over a year and manipulated a conversation until I could score off him with the same quote; there was a momentary silence and he nearly collapsed laughing.

On the other hand, when a year or two ago I was sitting in his room at Trinity and congratulated him on his part in the new history faculty building at Cambridge, I thought he was going to go out of his mind, or even worse, take the sherry out of my hand. He shook all over, assured me repeatedly that he had nothing to do with it and would not even go into the building. He then picked me up when I tripped over a paving stone in the quad and was almost absurdly concerned.

Like many another student whose intellectual life was enriched by knowing him, I salute Walter Ullmann's memory and am sure he is finding out the truth about the medieval papacy in heaven.

Unlike me, pupils today are computer literate. I have used computers but I could not claim to be happy with them. I do not yet know how to make real use of a home computer. Can a machine give me better service than my accountant?

Important though they are going to be in the home, their use in industry and the opportunities presented by them is more immediate. Yet I am told that British companies, despite the recession and high unemployment, have acute recruitment problems in the computer software area. Various types of electronic technicians have become as scarce as self-funding millionaires - though these too can be found.

It is not just that there are hundreds of people missing out on good jobs. The repercussions are much wider. The lack of suitably experienced people may lead to a company's inability to enter certain markets. Other effects of the shortages may include longer delivery times, postponed investment plans and hold ups in introducing the latest technology. And a industrial activity picks up, shortages are likely to worsen.

The "Micro in Schools" programme and the parallel DES 29m scheme to familiarize teachers and develop software is more advanced than anything yet appearing in French schools. But we are still not managing to cope adequately with the sheer rate of technological change.

Is there a role here for the Advisory Council on Adult and Continuing Education? As it comes to the end of its term of office in October, its members might be forgiven for feeling that there is little more useful to be done than to wait and see what

LETTERS TO THE EDITOR

A diplomatic approach to the two-year debate

Sir, - May I register agreement with the cautionary thrust of your editorial ("Three years in two?", *THESE*, January 21) in arguing for greater diversity rather than the substitution of a new two-year orthodoxy in place of the existing pattern of honours degrees. Support for these new proposals should rest on the extent to which they contribute to a genuine widening of higher education, both in terms of access and course design.

In the right framework the two-year degree/diploma does have a very important contribution to make. Fortunately policy makers are now in a good position to gauge this potential: you are quite right to cite the experience of DipHE courses, some of which have now been running for the better part of a decade involving some thousands of students. There is now a large pool of empirical data to draw on, much of which is highly relevant to the present debate. Though I speak for Middlesex, all major DipHE courses have a remarkably similar story to tell despite differences in structure and emphasis.

What we have learned from systematic monitoring of student achievement and aspirations is this:

1. Access can be widened without reducing standards.
2. Mid-career entrants can perform as well as younger students.
3. Many students, perhaps half, would stop with the Diploma if there were employment opportunities commensurate with this level of education.
4. Most would not wish to begin the course if there was not at least the opportunity to proceed to an honours degree.
5. In most cases it is not necessary for students to determine an

Overseas students

Sir, - I am writing further to the article by Felicity Jones (*THESE*, January 21) to refute the accusation of racism in connexion with admissions to the Polytechnic of Central London.

Admission to all courses at the PCL is based on academic merit and suitability for the course, on matters of national, racial or ethnic origin are irrelevant. The polytechnic is, however, in common with other higher education institutions required to charge certain students the overseas fee and has experienced considerable problems in identifying those overseas students who have not been ordinarily resident in this country or the EEC for the three years prior to their admission. The form to which your article refers is designed only to identify those students who should pay the higher rate of fees. It is sent to all (not merely those of overseas origin) who inquire about the courses in the school of engineering and science, rather than with letters, in an attempt to speed up the admissions process both for candidates and the polytechnic. Past experience has shown that many candidates did not complete the form or did not complete it fully and it was, therefore, necessary to indicate that candidates would be classified as overseas students unless they did so.

The questions in our form reflect guidance from our funding authority, the LEA, on the meaning of ordinary residence.

It is hoped that the recent Law Lords ruling on ordinary residence will enable the Department of Education and Science to simplify the fee assessment criteria which will enable institutions such as this to simplify admission procedures; present practices indicate the complications and difficulties of the existing criteria for fee assessment.

Your faithfully,
M. A. MILLER,
Academic Registrar,
Polytechnic of Central London.

Japanese salaries

Sir, - Giya O. Phillips, the enthusiastic writer of Don's diary (*THESE*, January 21) is impressed by the fact that "top professional salaries" at Gunma University, Japan, only amount to £1,000 per month. He is clearly unaware that all members of

academic specialism before they begin higher education. Given a suitable flexible course structure and a wide choice of foundation studies, students can find direction without loss of time.

6. The process of discovering direction enhances the educational experience: as a result students wishing to proceed to a degree do so for reasons of intellectual excitement as well as for professional goals.

7. Because the DipHE has helped lower the psychological threshold at entry for people overawed by the prospect of an honours degree, the social class base of entrants has widened.

8. Diplomates have demonstrated that they can transfer with success directly into the final year of non-linked honours degree courses both within and across institutions.

9. Since the spread of degree classifications ultimately achieved by diplomates is entirely commensurate with those of conventional students, and diplomates usually start from an inferior formal educational base, the DipHE experience is arguably more intense than the first two years of an honours degree, rather than less intense as you have suggested.

10. The progression of DipHE students provides very strong evidence for the viability of credit transfer schemes suggesting that the inflexibility of the present system is wasteful and unnecessary.

Finally, we have also learned that successful innovation requires direction and coordination. Criticism of the DipHE usually rests on two propositions:

- (i) It has not been widely implemented.
- (ii) It has not fulfilled its role as a terminal qualification.

Library costs

Sir, - In his criticism of your report on the National Book League's study of university, polytechnic and college library expenditure Mr Graham Mackenzie (*THESE*, December 31) refers to scale effects and the influence of the research orientation of the parent institution.

An economic study of academic library cost structures recently involved my visiting the United Kingdom and one of the matters I discussed with Mr Mackenzie, and others, was that of economies of scale in these libraries.

The results of cross-sectional analyses of Australian university enrolment and library cost data suggest that the marginal recurrent total costs of providing a service for post-graduate students (a possible proxy for Mr Mackenzie's "research orientation") may be eight times as high as for undergraduates. At the same time, economies of scale

The right of appeal

Sir, - I was disturbed to read your report (*THESE*, November 19) of Mr Alistair Wilson's proceedings in the European Court against Hull University, who have refused to allow him to appeal on academic grounds against an examiner's decision.

I have recently witnessed a similar case involving a colleague who submitted a PhD thesis to the same university which was rejected. This colleague, who has been a university lecturer for some years, wishes to appeal on the grounds that the competence of the examiners lay outside the main topic area of the thesis. In particular, the request was for a further opinion from one or more independent examiners.

I and another colleague wrote in support of this form, our knowledge of the candidate's work and our view of the general competence of the candidate. The response of Hull University was to process the appeal in a formal manner, simply concerning itself with

the implementation and development of DipHE has had to proceed in the absence of overt government support, and in the absence of parallel developments in the university sector. Therefore it should come as no surprise that public and private employers and professional bodies have so far largely failed to make specific provision for diplomates.

Unless there is a significant shift the new proposals could well founder on the same shoals.

Yours sincerely,
JOEL GLADSTONE,
Course Head,
Diploma of Higher Education,
Middlesex Polytechnic.

Sir, - While generally welcoming the news that the expected hostile reaction to the development of two-year diplomas to replace a proportion of degree courses has not occurred, I would like, nevertheless, to take issue with several points in your leader "Three years in two?"

You refer to "lower" entry requirements in relation to DipHE courses, implying that levels alone guarantee future academic success. DipHE, in common with other degree courses, require A levels from your applicants. However, as the creation of a new award gave an opportunity to take a long hard look at the content and process of higher education, many of the resulting DipHE courses do not build on a precise knowledge base. In admitting mature students, who are attracted by the course design, we look for indications of intellectual ability and potential, which are not necessarily the same as a specific number of A levels. The success on post-DipHE courses of these students without normal entry qualifications confirms our belief that entry standards are

not lowered by taking factors other than A level into account.

You rightly emphasize the British tradition of the bachelor's degree as the major terminal award. The DipHE experience is yet another confirmation of this position. Employers are now prepared to consider diplomates on the same footing as graduates. In spite of this, our students, even if their original intention was to complete their studies with a DipHE, inevitably aim at a degree, and preferably an honours degree.

At present the DipHE offers flexibility in opening up many possible routes to graduation. If the new proposals will block this continuation for all but a select few, then it will inevitably frustrate the ambitions of many able students and create a divisive two-tier system. I have difficulty in conceiving of any system of ensuring that the majority do not continue to three or four-year degrees other than by limiting places and financial aid.

Your discussion of two-year generalist as opposed to traditional three-year degrees would seem to assume parallel developments with little interchange between the two. As our experience shows, however, two-year courses need not necessarily be generalist, and there can be successful interchange between courses of the two types. If a genuinely pluralist higher education system is to develop then the flexibility must extend towards a much more open approach with free interchange between all courses.

Yours sincerely,
GINNY ELEY,
Chairman, Association of Colleges Implementing DipHE,
c/o North East London Polytechnic.

appear to dictate that at the margin the library of a small university of 2,000 Full Time Equivalents (FTEs) is likely to be just over twice as costly, per capita, as the student population of 15,000 FTEs. Perversely, it was not possible to establish the existence of a direct correlation between the relative levels of university research funding per se and library costs; in fact there were some indications that the true relationship might even be inverse.

As far as library cost components are concerned, scale effects arising from salaries and general running costs are considerably lower than those associated with new books and current academic library costs has, for more than a decade, steadily encroached upon the non-salary component.

Bank revealed a discernible worldwide trend in which the salary component of academic library costs has, for more than a decade, steadily encroached upon the non-salary component. It is perhaps worth mentioning that a time-series analysis of data extracted from the Unesco Statistical Data Bank revealed a discernible worldwide trend in which the salary component of academic library costs has, for more than a decade, steadily encroached upon the non-salary component.

Yours faithfully,
JOHN R. BROCKMAN,
Branches Librarian,
Western Australian Institute of Technology.

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Australian and British university libraries are sufficiently similar in their cost structures and general characteristics to support the belief that these kinds of disparities are also likely to occur in British universities. Moreover, recognition of these factors is vital to the proper interpretation of national compilations of simple statistical data on libraries.

Finally, Mr Mackenzie alludes to the high proportion, which salaries bear to total academic library costs. It is perhaps worth mentioning that a time-series analysis of data extracted from the Unesco Statistical Data Bank revealed a discernible worldwide trend in which the salary component of academic library costs has, for more than a decade, steadily encroached upon the non-salary component.

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procedures used during the conduct of the examination. There was no response from the chairman of the relevant board of studies or any administrative official of the university to the substance of the points made by and on behalf of the candidate.

It does seem to be unreasonable and unnecessary for a university to refuse a student the right to appeal on academic grounds. Examiners can be wrong, and in the interests of natural justice, clearly formulated procedures ought to exist so that a second opinion can be obtained. The CSE and GCE examining boards have such procedures which are widely used, and I can see no overwhelming reason why a university should not have them too.

Yours faithfully,
HARVEY GOLDSTEIN,
Head of Mathematics,
Statistics and Computing,
University of London Institute of Education.

Union View

Where clear thinking is essential

The headline in *The THES* (January 21) reports "Double boost for two-year qualifications". Two accounts then followed: one refers to the decision of the NAB board to call for a fuller investigation of the proposals for two-year courses which might form part of the strategy for local authority higher education in the late 1980s. The second refers to one element in the SDP proposals for education reforms, still to be approved as party policy, which envisages a change in the pattern of higher education courses currently on offer with some kind of two-year general foundation course after which students would either terminate their studies and enter employment or continue with more specialized courses to complete their qualifications. To compound the confusion *The THES* also refers to the fact that the present Secretary of State is known to favour "the introduction of shorter, more concentrated degrees, where feasible".

The debate on higher education and future patterns of provision is unlikely to be assisted by this kind of confusion. The headline seems to imply that Sir Keith, the NAB and the SDP are in favour of similar proposals. In reality the very diversity of the proposals for two-year qualifications is more important than the fact that they all suggest courses lasting two years. Sir Keith simply wants to reduce or contain costs without alienating potential Conservative supporters by depriving them or their children of access to higher education. The SDP says it wants to break the mould of three-year full-time courses which has dominated English higher education. But unless a significant proportion of students were to cease their education or have it terminated after the initial two years, the SDP package would presumably lengthen most courses.

natfhe

The NAB has sensibly refused to examine the issues on the basis of an extremely short paper, which certainly does not examine in any detail the two-year course strategy. It has commissioned a more detailed set of proposals relating to the future of public sector HE, in which course length will be an important component. Both the board and committee insist that any debate about two-year courses must take place in this context and relate to both sides of the binary line.

If we are to have a debate about two-year qualifications, and it now seems almost inevitable, then there is an urgent need to clarify what is being discussed. Are we for example discussing the provision of two-year degrees and would these be similar to the present three-year courses but somehow concentrated into two? Are we to assume a sort of 2 + 2 model with an initial two years of a more broadly based nature to be followed by a period with a greater degree of specialization? If so, what is wrong with the Dip HE and the various BEC and TEC qualifications which already exist?

Clarity is also essential because there must be real fears, particularly in respect of the present Government, that concept of a two-year qualification will be developed in a way which neither widens access nor offers an alternative pattern of higher education provision. That is why the present debate is so potentially dangerous. We need to pay scrupulous care to the terms of that debate so that we do not unwittingly sell the pass on the next generation of potential students seeking access to the system.

Yours faithfully,
Jean Bocoock
The author is Assistant Secretary for Higher Education at the National Association of Teachers in Further and Higher Education.

Letters for publication should arrive by Tuesday morning. They should be as short as possible and written on one side of the paper. The editor reserves the right to cut or amend them if necessary.